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THE NAMES OF 200 MEMBERS OF RECENTLY ORGANIZED MEDICAL SOCIETIES APPEAR IN THIS ISSUE.

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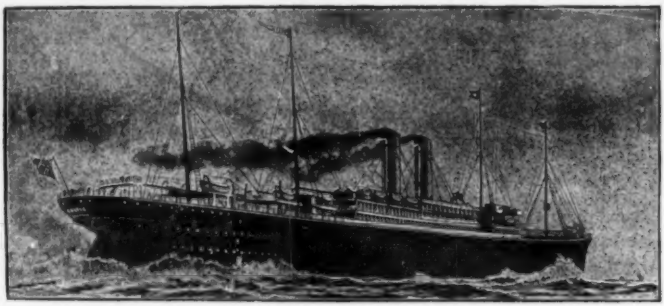

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REPORT OF NINETY CASES OF TYPHOID FEVER IN INFANTS AND CHILDREN.*

BY ISAAC A. ABT, M. D., CHICAGO.

This report consists of a study of ninety cases of typhoid fever, conducted for the largest part in the Children's Ward of the Michael Reese Hospital. A few of the cases occurred in my private practice. The report covers a period of three years.

The children were largely of Russian parentage. A history of conditions previous to the onset and prior to admission to the hospital was not always accurately obtained. A source of error in these histories is frequently due to the difficulty in obtaining accurate data from parents.

During the three years in which the cases were collected there was no particular epidemic of the disease. During the winter and early spring, it was rare to treat a single case, whereas during the month of June a few cases began to come in, the number increased in July, and by far the largest number of cases were admitted during the months of August and September. From this time on, a few cases occurred until December 1.

Age of Occurrence.—Even in recent years it has been maintained that typhoid fever in children under two years of age was of extremely uncommon occurrence. De Grassicourt[1] found only three cases in children as young as two years, in 276 cases of typhoid. Vogel[2] collected 1,017 cases, only four of which occurred in the first year of life. Morse[3], who has rendered great service by his classical report on this subject, found no case in a child as young as two years. Holt[4] has never seen a case in a child of two years of age. It must be remembered, however, that the clinical as well as the post-mortem diagnosis of typhoid fever in very young children, has been in the past impossible in many cases. The Widal reaction has been of great service in enabling us to diagnose cases which previously passed for another disease, or were not diagnosed.

There can hardly be doubt any longer that fetal typhoid can occur. Morse[3] summarizes concerning this point, as follows: "The typhoid bacillus probably enters directly into the circulation causing a form of general septicemia; therefore, the intestinal lesions in fetal typhoid are absent. Fetus usually dies in utero, or shortly after birth. Fetus may be born alive; if so, it is feeble, lives for a short time. Death usually occurs in a few days without definite symptoms. The fetus is not infected in every case."

In my series, the youngest child was 8 months old. One was 17 months of age; 1 was 21 months; 5 were 2 years old; 5 were 4 years old; 7 were 5 years old; 5 were 6 years old; 6 were 7 years old; 5 were 8 years old; 7 were 9 years old; 9 were 10 years old; 7 were 11 years old; the remainder were between 12 and 14 years of age.

The eight months' old patient was a male child. The mother and a brother two years old were in the hospital at the same time, ill with typhoid. The disease in the eight months' old patient was ushered in by fever and vomiting. Roseola over abdomen and buttocks was distinctly present a few days after admission. The spleen was enlarged; the temperature was constantly high; the abdomen was tympanitic. The diagnosis was made by the course of the disease and positively confirmed by the Widal reaction. One case, a child, twenty-one months old, died. The autopsy showed the usual abdominal and intestinal findings of typhoid in young children. The solitary and agminated follicles were swollen without ulceration; mesenteric glands and spleen were enlarged. This was a case in which multiple gangrene occurred, and has previously been the subject of a special report[5].

*Read at the 52d Annual Meeting, Quincy, May 20, 1902.

Prodroma and Mode of Onset.—The majority of the children were admitted after they had been ill a number of days, and for this reason accurate data as to prodromata and onset were not obtainable. In the older children prodromal symptoms were usually present. In smaller children the onset was frequently abrupt. A sudden rise of temperature was recorded in all the cases of young children; vomiting at the very beginning occurred nineteen times in our series. Convulsions are said to occur rarely; in one of our cases the onset was thus marked. Diarrhea was present ten times. Constipation was more frequent and occurred sixteen times.

Headache was more frequently complained of than any other single symptom except fever. At the beginning of the disease forty-two patients complained of this symptom. Chill, or chilliness was not infrequently recorded at the onset of the disease.

Epistaxis, which is said to be less frequent in children than in adults, occurred four times during the early days of the disease.

Delirium was present once. Pains in the abdomen and muscular pain were each present thirteen times. The well known symptoms such as anorexia, prostration, malaise, nausea, insomnia, pharyngitis were frequently present during the prodromal and initial period of the disease.

Pulse.—The observation of the pulse confirmed the dictum of Gerhardt[6]. The younger children showed a rapid pulse, while older children followed the type of adults and had a slow pulse. In fifteen of our cases, irregularity and intermittence of the pulse was noted for an uninterrupted period. In forty-two cases it was above 120 during the febrile period. Excluding cases of collapse and one of perforation, the pulse never exceeded 150 per minute in any case. In one case a relative bradycardia was present during the febrile period; the pulse varied from 50 to 70 per minute. In eleven cases it varied between 88 and 100 per minute.

Fever.—It was a common observation that the temperature of the patient immediately after admission was a maximal one for that day, the fever frequently falling one or two degrees after the patient had been placed in bed. This reduction was partly to be explained by the bath which the patient received upon admission. The high initial temperature is due to the excitement and fatigue incident to the journey to the hospital as well as the unsuited environment and mismanagement of diet and hygiene previous to admission.

The study of the temperature records in our cases teaches us nothing new. The course of the fever was in almost every case of the remittent type. The disease was ushered in, in not a few cases by a high temperature, 104 to 105 degrees being not uncommon. In none of the cases did the temperature fall by crisis; it fell gradually in every case. The typical course of the fever was changed by complications such as pneumonia, abscesses, etc. We were convinced that the temperature was affected by emotional excitement. Nearly all of the children showed a rise on visiting days, when the parents and friends were permitted in the ward. This, however, caused no permanent effect on the fever curve.

Relapse.—In nine cases, or 10 per cent., relapse occurred. Most of the relapses were mild and short attacks, although a few were severe and exceeded in intensity and duration the primary attack.

I have under my care in the hospital now a little patient who is suffering a second relapse, i. e., a third attack of the disease. The last relapse was preceded by twenty days of normal temperature and apparently complete recovery. During the relapse period the spleen again becomes enlarged and the roseola usually reappear as in the primary attack. None of the children among my cases who suffered relapse died.

Nervous System.—As has already been noted, the onset of the disease is very frequently characterized by the occurrence of nervous symptoms. Headache is one of the commonest symptoms. At this period convulsions are rare. Headache was complained of by fifty patients—in three, throughout the febrile period. In a large number of the milder cases, apathy was manifest. These patients slept a great deal, but responded to questions. In older children, delirium

was commonly observed. This condition was very marked in thirteen cases.

In one little fellow nine years old, who had been ill all told, about five weeks with a severe attack, and of whom the parents spoke as having been bright previous to this illness, showed unmistakable signs of dementia after the appearance of the fever. He laughed or giggled in an idotic way, most of the time and insisted on lying in bed uncovered and exposed. He took a fiendish delight in soiling the bed clothes and linen almost as fast as the nurses could change them, and he masturbated unabashed in full sight of the nurses, internes and other patients.

Among the younger children, those under the fourth year manifested their nervous state by great restlessness, and almost incessant crying. In two of the severe cases, marked and persistent stupor was observed. Tremor of the extremities and of the tongue was commonly observed in the severe types of the disease. In two cases, tremor of the tongue was persistenely present. It was a common observation, during the height of the fever, or during the period of defervescence and early convalesence, that the knee-jerk as well as the abdominal and cremasteric reflexes were increased. Ankle clonus was frequently obtained during the same period. Meningeal symptoms were observed in two cases. The histories of these two cases are as follows:

P. L., aged three years, was taken suddenly ill with high fever. The temperature rose to 104; and remained more or less constant in character. He complained of excruciating headache; vomited frequently. He very soon passed into a comatose condition; there was extreme rigidity of the neck; continued high temperature, somewhat irregular pulse, the pupils were regular, there was slight deviation of the eyes. The reflexes were increased, and ankle clonus was present. The Kernig sign was marked. The Widal test was made on the second day of the disease and submitted to the municipal laboratory, who reported a positive reaction on the third day. The meningeal symptoms persisted unchanged. Frank Billings saw the case in consultation with me on this day. He suggested that another Widal reaction be made by the municipal laboratory. The report of this reaction was again positive. Dr. Billings saw the case again with me on the fifth day, and at this time the meningeal symptoms had entirely disappeared. The case presented all the characteristics of a straight typhoid. The disease ran an uneventful course from this time on, and the patient made an excellent recovery.

July 21, 1901. M. F., aged 9 years. Born in Chicago of Russian parentage. Onset ten days before entering hospital. Onset marked by severe headache and violent vomiting. Headache gradually increased in severity and at the end of three days child was delirious, and very irritable and restless. About this time the parents noticed rigidity of the limbs and neck. Child had some diarrhea.

Past illnesses: No history.

Family history: Parents well, other members of the family well. No hereditary nervous, or mental conditions known to exist.

Environments: Lives under very unhygienic conditions; poor water, poor milk supply, and irregular food. Many cases of typhoid among neighbors.

General appearance: Fairly well nourished boy, with appearance of extreme illness.

Head: Long, peculiarly shaped. Pupils widely dilated, react to light. Mouth dry and brown. Tongue covered with brown fur and furrowed. Teeth bad.

Throat: Dry and red. Considerable rigidity of the neck.

Thorax: Fair general development. Respirations shallow and somewhat irregular.

Lungs: Negative, except harsh respiratory murmur and a few scattered, moist rales.

Heart: Outline normal; apex fourth intercostal space, one cm. inside mammary line. Tone weak; soft systolic murmur over apex. Second pulmonary not loud.

Pulse: Good quality, about 100. Not dicrotic.

Abdomen: Spleen enlarged, sharp, hard edge, easily palpable under ribs.

Liver slightly enlarged.

Extremities negative. Genitalia negative.

Nervous system: Marked acute delirium, maniacal in character. Muscles of extremities and neck rigid, and reflexes exaggerated greatly. Ankle clonus very marked.

Skin: Abundant crop of rose spots; taches cerebrales easily elicited.

Glands slightly enlarged.

Urine: Trace of albumin and a few hyaline casts. Diazo reaction positive.

Widal reaction positive. Blood count: Whites, 3,000; reds, 2,800,000.

The eyegrounds were examined and found to be negative.

Lumbar puncture: Clear fluid, nothing in smears or cultures. No result from injection into animals.

When the patient had been in the hospital one week the meningeal symptoms disappeared suddenly. The case ran an uneventful typhoid course from this time on. His temperature became normal on the eighteenth day after admission and remained so from that time on. He was discharged after a stay of thirty-seven days in the hospital, fully recovered.

Tongue.—The tongue is described as dorsum white and tip and edges red in thirty-six cases; is covered with a dry, brownish fur in six cases and as intensely red in one case. The white or grayish-white tongue with red border and tip, is regarded as the most characteristic for typhoid, though it is by no means always present. The appearance of the tongue is not always the same, and may change from day to day.

Stomatitis.—Stomatitis was observed in four cases, and gingivitis alone in one case. Infection of the mouth occurred in spite of the most scrupulous care. No symptoms were observed other than local discomfort in the mouth, though the food was not so readily taken and an increased flow of saliva was observed.

Herpes-Labialis.—Herpes-labialis occurred in four cases. This condition has been thought to be very infrequent, though that it does occur, is attested to by numerous reports in the recent literature.

Epistaxis, all told, occurred sixteen times. In two cases, excessive bleeding occurred; in three, it occurred during the prodromal period. In one case it occurred daily during the first week of the disease; in another, it preceded by a day the appearance of the relapse. In one case it was severe and persistent and caused great exhaustion.

Intestinal Symptoms.—As has already been stated, constipation was frequent during the first days of the disease. Constipation occurred during the course of the disease in thirty-six cases, so that daily enemata were necessary to unload the bowels. In seven cases, diarrhea occurred during the first week and frequently constipation existed throughout the course of the disease. In twenty-eight cases diarrhea occurred; in two it was slight; in three the stools were offensive and in two it was severe. In ten cases the bowels moved once or twice daily without assistance. The stools were not characteristic for typhoid. In the younger children the stools showed undigested milk; they were fluid and contained a considerable quantity of mucus. Fecal impaction occurred in two cases, and in each during the period of convalescence, before the patient had been fed solid food. In both these cases slight temperature occurred at the time, associated with tympany and a feeling of fullness and distress in the rectum. These cases were relieved by the manual extraction of the hardened and tenacious fecal masses.

Hemorrhage.—Intestinal hemorrhage occurred five times. In two it was slight. In one, a moderately severe hemorrhage occurred only once. In one case two distinct attacks of hemorrhage occurred. Hemorrhage is not so frequent in children as in adults. It occurs most frequently at the end of the second week. The ages of the patients in whom hemorrhage occurred, ranged as follows:

Six years old, 8th day of relapse.
Ten years old, 11th day of disease.
Twelve years old, 7th day of disease.
Ten years old, 6th day of disease.
Eleven years old, 8th day of disease.
Two were girls and three were boys.

Tympany was present in fifty-five cases; though it was rarely severe.

Perforation occurred in one case. The history of the case is of great interest and it is reported in full:

M. S., aged 10 years, of Russian parentage, entered the hospital after an illness of three days, complaining of headache, malaise, anorexia and diarrhea. The eyes were bright and face flushed; tongue heavily coated and some hyperemia in throat. The spleen was palpable two fingers below the costal arch. On entrance, the temperature was 102.8; pulse 128 and respirations 40. The temperature ranged between 98 and 104.2 with the morning remission and evening rise, of one to two degrees, accompanied by a pulse varying between 84 and 130. Temperature by gradual decline was normal on the 16th day after admission, and remained so for three days. In twenty-seven hours it again rose to 103.8 and continued with the usual morning remission accompanied by a pulse ranging from 100 to 160. On the thirty-third day after the relapse and on the fifty-fourth day after entering the hospital, at about midnight, the patient complained of severe abdominal pain and vomited some curdled milk. The temperature during the previous day was about 102.4; at 9 P. M. it was about 102.6 and at 12 was 101 with a pulse of 136 and respirations 32. At 3 A. M. the temperature was 101 with pulse of 180 and respirations 64. The patient was restless, the skin was cold and clammy and presented the peculiar facies. The abdomen was tympanitic and very tender. The radial pulse was almost imperceptible. At 5 A. M. the pulse was 160 and the respirations 48; at 6 A. M. temperature was 104.8, pulse 176, respirations 44.

The patient was taken to the operating room at 8:30 A. M. for operation. E. Wyllys Andrews, the attending surgeon to the hospital, who was on duty, was summoned.

A perforation in the small intestine, pencil-point in size, was found after opening the abdomen. The perforation occurred in the middle of an excavated area which was about the size of a five-cent piece. There was abundant evidence of beginning fibrinous plastic peritonitis in the neighboring coils of intestine. The ulcer was inverted and sewed, a Lembert suture being used. The peritoneal cavity was flushed with saline solution. The child showed considerable shock during the operation and toward the end was almost pulseless. The abdominal wound was closed with silkworm gut and sealed with collodion. After returning the child to her bed, active methods of stimulation were employed. A saline infusion was given subcutaneously and hypodermics of strychnine and digitalin were also administered.

The pulse at the time the patient was returned to her bed was 152; the highest pulse after the operation was 160 and respirations not above 48. The temperature fell rapidly from 103 at noon to 97 at midnight; it did not again rise over 100.2 until the eighteenth day after operation, when for several days she had an evening temperature of about 102, due to the development of abscess on the extremities. The patient finally left the hospital on the ninety-fifth day after admission in excellent condition, having gained in weight and was discharged as fully recovered.

The Widal reactions in this case were positive; the urinary findings were negative except for numbers of leucocytes and a slight albuminous reaction with Tanalt's test. No casts were found.

Liver.—The liver was carefully examined in all our cases. In twenty-five cases the liver was somewhat enlarged. It was markedly enlarged in one case. One of the cases that came to autopsy showed a condition of catarrhal cholangitis.

More attention has recently been paid to the study of the liver and gall bladder in typhoid fever than hitherto. The catarrhal form of cholangitis, such as occurs in our case, has received but little mention. Curschmann[7], writing on typhoid fever, says that the microscopic examination of the liver in typhoid fever shows more or less change in every case, depending upon the severity of the infection. The liver cells first show cloudy swelling, and later on granular degeneration and fatty change. Eventually they may break down entirely. The gall bladder may be the seat of ulcerative, or a diphtheric process on its mucous surface. Secondarily the larger bile ducts may be involved with secondary changes in the liver, leading to abscess. Accordingly to the researches of Chiari[8] and Birsch-Hirschfeld[9],

the typhoid bacilli are almost constantly present in the gall bladder in cases of typhoid fever. Talma[10] has shown in an experimental way that by injecting typhoid bacilli into the gall bladder, that a general, though mild angio-cholitis developed, preceded by a cholecystitis. A careful review of the literature shows few cases of this variety of catarrhal cholangitis, as a complication of typhoid fever. Cases of suppurative cholangitis secondary to cholecystitis, have been more frequently reported.

An adenoma was also found in this same case. This must be regarded, however, as an accidental finding. It bore no relation to the typhoid infection.

In another case a girl of ten years came to autopsy. In this case the liver showed a condition of acute hematogenous hepatitis. The central vein, the capillaries and the interlobular vessels were congested. In the center of the lobule, the liver cells showed fatty degeneration. Small cell infiltration occurred in the interlobular connective tissue and also between liver cells. Small areas of focal necrosis were observed. There was an increase of interlobular connective tissue, with formation of new bile ducts.

Pancreas.—In the above mentioned case, the histological examination of the pancreas showed an acute interstitial pancreatitis. There was congestion of the vessels and small cell infiltration in the interlobular and intraacinous connective tissue.

Spleen.—The spleen was palpable in eighty-four cases. Not infrequently the splenic enlargement was observed during the first week of the illness. Tenderness, upon palpation of the spleen was seldom observed. In several cases where the spleen had been excessively enlarged, the involution of the organ was gradual and not infrequently was not complete until two weeks after the cessation of the fever. We learned, however, that the continued persistence of enlarged spleen was to be looked upon as probable evidence that a relapse would occur.

Lungs.—Bronchitis is very often observed during the first week of the disease; it occurs in most of the severe cases and may occur in those of mild type. It was noted forty times in our cases. Broncho-pneumonia occurred five times and lobar pneumonia twice.

Heart.—Endo-cardial systolic murmurs occurred in thirteen cases. These were for the most part undoubtedly accidental murmurs, as they disappeared during convalescence. In five cases a diagnosis of mitral regurgitation was made, with compensated heart. These probably antedated the occurence of the typhoid. In one case the heart was markedly irregular, with somewhat rapid pulse. This condition continued for several weeks. An acute myocarditis was suspected in this case. The patient recovered.

Skin.—The roseola was seen during the first few days; it was not uncommon to find it developed in the third or fourth day after what appeared to be the actual onset of the disease. It was noticed to gradually disappear as convalescence occurred. Our records show that roseola occurred fifty-five times on the abdomen. In one case it lasted undiminished for twenty-five days. In sixteen cases the rash appeared over the abdomen and thorax; on abdomen and buttocks in two cases; in iliac region in one case; on axilla and abdomen in one case; on flexor surface of arms in one case; over chest, abdomen and buttocks in one case. The rash with perhaps one exception appeared in crops during the course of the disease so that a number of spots could be seen every few days, the old ones disappearing in the meantime. In one case the roseola became the seat of purpuric spots. Sudamina late in the febrile period and during convalescence were observed in four cases.

Furunculosis occurred in twelve cases. In two cases general furunculosis occurred. In eight cases, abscesses of large size were found under the integument in various parts of the body. Onychia was observed in one case.

Erythema.—A diffuse erythema is not uncommon in any febrile affection. An erythema occurring early in the disease may confuse the diagnosis particularly if a pharyngitis be present. Erythema occurred eight times. In one case it was diffuse over the entire body; in one it was localized; in

one it was transitory and in one it was confined to the face.

Urticaria occurred in one of our cases, early in the second week.

Bedsore and multiple gangrene occurred each in one case.

Desquamation was observed in ten cases. It occurs during the convalescent stage, and consists of exfoliation of fine scales. The exfoliation is not as extensive as in scarlatina, but resembles more the desquamation of measles.

Special Sense Organs.—Involvement of the middle ear in typhoid fever of children is comparatively frequent. Otitis media occurred five times; once it was bilateral; four times it occurred only in one ear.

Severe conjunctivitis was observed twice. The pupils were dilated in a very large number of cases; this was observed particularly during the height of the disease.

Urine.—The test for the Diazo reaction was made in nearly every one of our cases; it was noted to be absent nine times. Its value in this disease depended upon the fact that it occurs in a large proportion of the cases at some time during the disease. The reaction is most pronounced after, or during the second week of the disease. The reaction occurs in acute miliary tuberculosis, chronic tuberculosis, measles, scarlatina, malarial fever, pneumonia and other diseases. The reaction depends for its occurrence upon the fact that fermentation and decomposition are going on in the intestinal tract and the products thus manufactured are being absorbed, and in due time eliminated by the kidneys.

The urinalysis showed the specific gravity in more than two-thirds of the cases to be 1.018, or less. The presence of albumin was noted in eight cases. Hyalin and granular casts in thirteen cases.

The bacteriological examination of the urine in fifteen of our cases was carried on by H. E. Davies. His report is summarized as follows:

1. R. C. No typhoid germs found, but B. coli on 31st, 40th and 44th days.

2. M. F. Typhoid germs found on 34th, 42d and 46th days, with albumin and ca.

3. R. L. Typhoid germs found on 20th, 28th, 37th, 44th, 50th, with albumin.

4. F. I. No typhoid germs found, but s. p. aureus on 21st, 30th, 37th and 53d days, with albumin.

5. W. B. Variety of typhoid germs found on 24th, 33d, 41st days; no albumin.

6. F. K. S. p. aureus on 23d, 31st, 40th and 48th days; no albumin.

7. R. H. No typhoid, but B. coli, or a variety of typhoid on 40th day; much albumin.

8. I. L. Typhoid germs on 40th, 44th and 50th days, with albumin and s. p. aureus.

9. P. G. No typhoid germs, but M. ureae on 14th, 21st and 28th days; albumin also on these days.

10. B. F. Typhoid germs on 22d, 30th, 39th and 47th days, with S. p. albus and albumin.

11. H. M. No typhoid except possibly a variety on 27th day; no albumin.

12. S. S. No typhoid, but M. ureae on 14th, 22d, 30th days; no albumin.

13. I. W. Typhoid germs on 20th, 28th, 35th days, with albumin and pus.

14. A. M. No typhoid germs, but B. coli on 16th, 23d, 31st, 38th days; no albumin.

15. M. F. No typhoid germs, but B. coli on 12th, 20th, 28th, 35th, 44th days; no albumin.

Summary—Out of ninety specimens of urine, representing fifteen cases of typhoid fever, seventeen specimens representing five cases showed the presence of typical typhoid bacilli.

2. In eighteen specimens, varieties of the Bacillus coli and of the typhoid germs were found.

3. In the greater number of cases the typhoid organisms were first found from the end of the third to the middle of the fourth week of the disease. They may, however, make their appearance as early as the end of the second, or as late as the fortieth, or forty-fifth day.

4. The typhoid bacillus when accompanied by other species especially the staphylococcus pyogenes aureus, may occur in such small numbers as might easily escape notice.

5. As pointed out by Horton-Smith[11] and Petrusky[12], the typhoid bacillus may be found in the urine in such large numbers as to render the urine turbid.

6. The largest numbers of typhoid bacilli in the urine are more likely to be found just after the height of the fever, or the beginning of the defervescence, from which time they usually decrease in number as long as the examination continues.

7. In the cases examined by me, where the bacilli of typhoid was found, albumin was always present, frequently in large quantity.

8. In the cases which contained the typical typhoid bacillus, pus was almost invariably demonstrable, even although in many cases no pus microbes were present. This would seem to lend additional support to the theory that the typhoid bacillus may itself, under certain conditions, be a pus producer.

9. The results here presented, as well as those of other investigators, demand that a systematic bacteriological examination and certrifugalization of all urines from typhoid cases should be made.

10. When the typhoid bacillus is detected by this means some measures of prophylaxis should be taken against infection. From the first appearance of the typhoid bacillus until it disappears, rigid disinfection of the urine should be practiced. The ideal prophylaxis would be attained by preventing the development of the typhoid germs in the urine. One means of accomplishing this result would be the administration to the patient of small doses of urotropin, as first recommended in the cases of Richardson.

The Blood.—The Widal reaction was made in every case, most frequently in our laboratory. The dilution was made in the proportion of 1 to 20. Later the technique was changed so that the dilution was 1 to 40. The result was considered positive, if, at the end of thirty minutes, agglutination was complete and motion arrested. The Widal was reported positive in all but two cases. It is difficult to state on what day of the disease the Widal was found to be present. Many of the patients were ill a number of days before admission, though in several cases it is safe to say that the Widal was positive on the second and third days of the disease. The Widal was found as late as the fortieth day.

The blood in typhoid patients presents characteristic features. The hemoglobin gradually diminishes during the course of the disease; the number of red corpuscles also decrease in a gradual manner during the febrile period. At first the red cells are unchanged in form; later, they may be seen to vary in size. If the anemia becomes severe, poikylocytosis may occur. More rarely, nucleated reds, normoblasts and megaloblasts may be seen.

The leucocytes at the onset of the disease are neither increased nor diminished. At the end of the first week the number begins to decrease, so that at the end of the third week leukoplenia exists. If complications such as pneumonia, perforation and peritonitis set in, leucocytosis occurs.

The findings in one case were as follows: L. M., admitted September 11. Discharged November 9, 1901.

Date.	Leucocytes.	Reds.	Hemoglobin.
Sept. 12.	9,000	4,810,000	73 per cent.
" 29.	6,300	4,680,000	70 " "
Oct. 14.	6,750	4,520,000	63 " "
" 28.	6,600	4,160,000	68 " "

In seven of our cases, other members of the family were ill at the same time with typhoid. In ten cases, the report was made that typhoid was prevalent in the neighborhood where the patient lived.

Out of the ninety cases treated, two died. These have already been referred to. One girl eleven years old, died as the result of a severe attack of the disease, with changes in the liver and pancreas and extensive ulceration of the bowel. The other child, aged twenty-one months, suffered from multiple gangrene and catarrhal cholangitis.

Treatment.—The treatment which we employed was the same that is everywhere in vogue. It may be divided as follows:

1. Hygienic.
2. Dietetic.
3. Hydrotherapeutic.
4. Expectant and symptomatic.

A large proportion of the cases ran the entire course of the disease without receiving any drugs. Patients were kept in bed and as near as possible, absolutely quiet. They were encouraged to change their position in bed frequently. This enforced rest in bed could not be strictly adhered to in young children; it was necessary to pick them up on account of restlessness, or to change their napkins and for their baths. The mouths were kept scrupulously clean by washing with boric acid solution. The usual precautions concerning the prevention of bed-sores by rubbing the back with alcohol, was practiced.

Only a few visitors were allowed in the ward at a time and if a number of patients were ill, visiting was abolished. During the febrile period the patients were kept on a liquid diet, consisting almost exclusively of milk, except in those rare cases where milk could not be borne. After the temperature had fallen to normal, strained gruels, broths and fruit juices were permitted. The patients were all encouraged to drink large quantities of water. No solid food was allowed until the tenth day of normal temperature.

The treatment of the temperature was hydrotherapeutic. A temperature above 102 was treated by tepid sponging; if the temperature rose still higher and was not reduced by the sponging, the patient was placed in a cold pack. In those cases where the fever was not controlled by either of the foregoing, the patient was given a full bath. He was placed in a comfortable, warm bath of about 90 degrees F.; this was gradually reduced to 80 degrees F. We found it rarely necessary to reduce the temperature of the bath much below this point. At times, however, where the fever did not yield, the bath temperature was reduced to 70 degrees or 75 degrees F. No antipyretic drugs were employed to reduce the temperature in any case. In those cases showing nervousness or restlessness, an ice-bag applied to the head, sometimes gave relief. At times a small dose of Dover's powder, or sodium bromide was given for restlessness and sleeplessness.

Constipation was treated by enemata and cases of severe diarrhea were given small doses of deodorized tincture of opium. In the prolonged cases which showed the exhausting effects of the disease, where the pulse was rapid and weak, whisky, or brandy was employed, and moderate doses of strychnia were given. A child ten years of age was given 1.100 of a grain of strychnia three or four times a day. A child three years of age was given 1.200 of a grain three or four times a day. Intestinal antiseptics were rarely employed.

It is unnecessary to go into further detail concerning the various complications and conditions which arose and required special attention. Such complications and conditions were treated as they arose, on a rational plan. At the close of the febrile period, patients were frequently given a tonic in a routine way, the favorite being the elixir of iron, quinine and strychnia.

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Discussion.

George B. Dock, of Ann Arbor, Michigan (by invitation): It is very kind of you to ask me to open this discussion, and I appreciate the honor. I do not, however, feel that I can

add anything to what Dr. Abt has so ably presented to you, as he has thoroughly covered the ground. I have been very much interested in typhoid fever in children, but have not had much clinical experience with this disease in these young patients. I was very glad indeed, therefore, to have had an opportunity of hearing Dr. Abt's paper. It has confirmed many of my opinions.

A. C. Cotton, of Chicago: So able a presentation should not go without at least a word of commendation, for the very reason that it is ground that has not been extensively worked. Our knowledge or any exact information concerning typhoid fever in very young children is of very recent growth. I think it was not more than ten years ago that the late Dr. Charles Warrington Earle read a paper before the American Pediatric Society, in which he recorded thirteen cases of typhoid fever in young children. The discussion of that paper became very stormy, and brought out some assertions of a very positive character against the possibility or probability of typhoid fever in infants under two years of age. So able a man as Norbury, who, for many years, was the pathologist of the Foundlings' Home in New York, and who had performed at least three thousand post-mortems on children, declared that the records of that institution failed to show one single instance of typhoid fever in a child which had been demonstrated and confirmed on the post-mortem table. He said that although the ward records showed a large number of diagnoses of typhoid fever ante-mortem, none of the cases had been corroborated at the autopsy. Such an authority as that and the positiveness and correctness of his findings made it rather difficult to answer his assertions. Many practitioners even at that time believed that they had met typhoid fever in young children. Of course, the diagnosis had to be made from the clinical symptoms alone, and until the adoption of the Widal test, the subject was still *sub judice*. Since then this discussion has been taken up by some very eminent workers, like Dock, of Ann Arbor, Musser, of Philadelphia, and many others. The very able record and report of the large number of cases to which Dr. Abt has referred will certainly add strength to the contention that typhoid fever is met within infants beyond any doubt whatever.

This paper was very well presented, and the cases are very graphically described by the Doctor, for which the whole profession is under obligation to him. But it shows that the clinical history of typhoid in infancy is decidedly atypical from the adult standard. Some fifteen years ago we had to break away from the old German clinical type of typhoid, in order to get rid of such terms as typho-malaria, pneumo-typhoid, and other misleading terms, because we were trying to make our cases fit the old German standard type. We must have iliac gurgling, and we must have rose spots, and we must have meteorism, and, above all things, we certainly must have diarrhea. The older members of the profession will remember this very well. In 1883 men like Loomis, Flint, Janeway and others took part in a very earnest discussion as to whether the disease as prevailing at that time was typhoid or not, and one of the obstacles was that they did not have the required diarrhea. How short a time ago that was, when we had to have diarrhea. Now, with our children, if we find by the Widal test, and the infant is undoubtedly susceptible to the reaction of the Widal test, that typhoid is quite prevalent among children, and there is no anatomic nor clinical reason why children should not have typhoid, except perhaps that they are not so much exposed to the infection with typhoid, because they derive their food from what is usually considered an aseptic source, it goes without saying that the case is one of typhoid, even if the symptoms are not classic. I, myself, have seen a large number of cases of typhoid in children, and I am firmly convinced that my diagnosis was correct, but we must not expect to find the typical symptoms of typhoid in the infant as we find them in the adult.

J. Sloey, of Lebanon: It so happens that I have under my care at the present time a little girl with typhoid fever. She has fever, gurgling in the bowels, temperature, which rises in the evening and is lower in the morning, and she is severely constipated. I tried all kinds of purgatives, but did not succeed in getting her bowels to move. The case at first was rather mild, and I did not suspect typhoid until I was called in about a week ago, when I found all of the typical symptoms of typhoid. I have had several cases of typhoid fever in children in the last few years, that I unhesitatingly pronounced as such. One was a little girl about six years of age whose morning temperature was much higher than the evening temperature, usually a variation of five or six degrees. She was also very constipated. My entire treatment in that case was saline injection. The fever continued for about ten days, and then dropped to the normal. Another case, a little boy, was nearly in the same condition. He was very restless, throwing himself about a great deal, and even becoming unconscious at times. I used the same treatment as in the previous case. I would give him a high rectal injection of salt solution, after which he would go to sleep very promptly. I find that that treatment is far better than the one I used years ago, namely, calomel. It seems to me that it is the most rational mode of treatment. I think it cannot be disputed that children have typhoid fever, although the course of the disease may be somewhat atypical.

Frank Billings, of Chicago: I think a further word should be said in reference to the good work done by Dr. Abt. It is just such work as this that is of decided value to us in our medical work, and it ought to be encouraged.

With regard to the question brought up by Dr. Cotton as to the clinical phenomena of disease manifesting themselves in different ways from time to time, and the various methods of diagnosis, I wish to say that while the primitive methods were sufficient in the old times, they were really not sufficient from

our standpoint, and consequently frequent disputes arose as to the correctness of the diagnosis, between the clinician and the pathologist. Today all that is different. There are so many better methods of making a good diagnosis in all of our affections and with these the existence of typhoid fever in infants is no longer a matter of dispute.

The Widal test is undoubtedly of value, but unfortunately it is not always present in the early stages of the disease. More recent investigations have shown that one can find the typhoid bacilli either in the stools or by making a culture directly from the blood much earlier than we get the agglutination phenomenon with the Widal test. The test is very easily performed, and simply requires the apparatus necessary for withdrawing the blood, and getting the serum, and the culture material which is necessary is always easily obtainable. A diagnosis based upon these methods, either laboratory or clinical, or both, will always help us to decide whether the patient has typhoid or not.

CONTROL OF VACCINES, ANTITOXINES AND BIOLOGICAL PRODUCTS.*

BY ADOLPH GEHRMANN, CHICAGO.

Variability of this class of products. Difficulties in production. Reasons why uniform standards are not maintained. Control from the standpoint of production. Control from the standpoint of use. Suggestions as to supervision and interpretation of results.

LABORATORY, DEPARTMENT OF HEALTH,
May 19, 1902.

The rapid advance of animal therapy has placed at our command a considerable number of biologic products and to those already in use others will be added as the result of future experimentation. This is a part of progress in medical science.

Only such agents as have passed the experimental stage can be considered as subjects for control. As soon, however, as the principal facts regarding them are settled and a definite utility value is established it should be possible to have a mutually agreed standard for each, so that the properties and description of the product can be clearly understood by every physician.

*Read at the 52d Annual Meeting, Quincy, May 20, 1902.

Since the introduction of diphtheria antitoxin in 1894 a continuous examination of antitoxin and vaccine products has been made in the Laboratory of the Chicago Health Department. Products from many sources and obtained under widely different circumstances have been tested. This experience has convinced me that it is possible to produce products of this class of a high grade of efficiency and purity and to hold such a standard over long periods. But it requires close scrutiny and continuous vigilance. On the other hand, a wide variation from what might be called standard has been noted by us both in products purchased from drug stores and also even in special samples received for test.

As obvious facts regarding impure products I will only refer to the recent literature without comment.

Tetanus in Antitoxin, St. Louis Medical Courier.

Tetanus in vaccine, McFarland Wilson, Journal A. M. A., May 10, 1902.

Bacterial Content of Vaccine, American Medicine, April 19, 1902.

Editorial, Journal A. M. A., May 17, 1902.

Possible variations in diphtheria antitoxin are first as regards extraneous bacteria and decomposition. On this point all evidence at hand indicates that decomposed sera are very rare. I have only one recorded instance, although upon several occasions, where the antitoxin was credited with producing abscesses and infection, an examination of the remaining serum in the bottles was made, and these tests showed no living bacteria.

Second as to the number of units contained. What a unit of antitoxin strength indicates should be more generally understood. On some packages of antitoxin the term immunizing unit is used. If this is based on Behring's original description it should represent only one-tenth the strength of the antitoxic unit. Uniformity in this particular would be most desirable. As regards the number of units it has happened in several tests that specimens bought in the open market and also received for special investigation have had from 25 to 50 per cent less unitage than indicated on the label.

In one particular vial, marked 2000 unites, the test showed only five hundred units. Antitoxin from the same producers examined at different times have given both excellent and poor results. From this experience I should not condemn the product of a particular producer, but would only do so upon continuous observation. On the other hand it would be as unjustified to consider a product satisfactory without similar continuous observations.

The following note taken from the monthly Bulletin of the Chicago Department of Health is from a calculation by F. W. Reilly, and indicates a possible condition as regards vaccine. The failures in this particular instance were due to the distribution of about 20,000 tubes of untested vaccine during the rush of vaccination at the time of opening schools. These were replaced and after test were reapplied to cases of failure. The recurrence of such failure has since then been avoided by arranging for the supply a longer time before the schools opened. In this way tests can be repeated if some lots fall below the standards.

Inert Vaccine Lymph. During the year 1897, the Department distributed 126,800 tubes of glycerinated vaccine lymph to its public vaccinators, and obtained 82,804 successful vaccinations and revaccinations—an average of a little more than one and one-half (1.53) tubes for each successful result. From January to May inclusive and in October and November 63,600 successful results were obtained from 72,940 tubes distributed —an average of 1.14 tubes for each success, or 87.7 per cent.

During the first eleven months of the present year, (1898) 75,610 tubes have been used with only 25,864 successful results—an average of nearly three (2.92) tubes to each success, or 34.2 per cent. During the last four months the figures have been even more unsatisfactory—45,090 tubes and only 12,124 successes, an average of 3.71 tubes each, or less than 27 per cent.

Without further detail at this time it is evident from these gross figures that the producers of glycerinated vaccine have yet much to learn before they can be relied on to furnish a uniformily potent as well as pure lymph.—Monthly Bulletin, Chicago Health Department, November, 1898.

The bacteriological examination of vaccine is very important. Experiments made during 1895, by myself and Dr. Garrott, formerly medical officer in the Department, showed that in glycerinated lymph the pus bacteria were destroyed in 50 to 60 days without any loss of potency and that a further period of 40 to 50 days could safely be assigned for the period of usefulness; after which time, slow but sure deterioration took place. The use of vaccine that has not remained in glycerin long enough is dangerous. The suppuration caused by the pus bacteria masks the real evidence of vaccination and causes the painful infections that are dreaded by the public.

There are several reasons for variability in the products. Foremost must be placed the entire absence of any defined standard. The production of each kind of antitoxin, vaccine or extract is a matter of difficulty and requires more than skillful manipulation. Organisms have to be cultivated and selected through a continuous series to maintain their characteristics and a high grade of virulence. It is one worker to each culture and if one day is missed a complete failure may result. It is true therefore, that much individuality is represented in this line of work and the particular product is often due to the special ability of some scientific observer. It is further limited in amount; each man can only produce so much and if he goes beyond this there is danger of irregular results. The fact that the products are of temporary utility and have very definite limitations is the cause of failure when these limitations are not clearly understood. Biologic preparations are not permanent, but must be produced continuously whether used or not. This might lead to a purely commercial reason for variation in some cases, but I should not consider this a matter of importance.

The facts, both clinical and experimental, seem to make it clear that some regulation and assistance in procuring and maintaining pure and active preparations is much needed.

The methods of continuous control by tests and experiments as used in the Chicago Department of Health regarding antitoxin and vaccine makes it possible always to guarantee the products used. The excellent results as shown from the clinical study attests to this fact. As regards the producers it is my opinion that some manner of control would be acceptable to them because present criticism would then be removed and a wider and more certain confidence would result. By the physician it must be at once approved if it can give us always a high grade product. Of my personal knowledge I have instances where the last means of a family was used to purchase a vial of antitoxin, and the result of its use not being satisfactory, the physician himself has purchased additional vials for use in the case. It would also assist in making the patient more confident. He would accept these remedies as readily as those now listed in the pharmacopea.

The recorded experience of the antitoxin administrators of the Department make it clear that prompt and decided results are to be expected from the use of a full strength antitoxin. These results are summarized in the Bulletin of January, 1901.

In October, 1895, antitoxin was first used. In the five years to December 31, 1900, 5,727 cases of verified diphtheria were treated by the administrators with results as follows:

Total cases	5727
Total deaths	389
Per cent mortality	6.79%
Per cent mortality	
Treated on 1st day	.42%
2d day	1.54%
3d day	3.54%
4th day	11.38%
Total cases intubated	585
Per cent recovered	71.29%
Per cent died	28.71%
Total cases immunized	4831
Total number subsequently contracting diphtheria	25

These 25 and all intubated cases are included in the general statistics.

Recognizing fully the variation of severity in diphtheria infection, the cases of slow or partial action of antitoxin that have come under my observation must be due to less units given than required, and this is corroborated by experiments that show the occasional small per cent of the indicated number of units that is actually present in the vial. A very recent test made by Dr. Evans showed that out of 15 vials examined 5 vials contained the number of units indicated.

By what scheme is control to be obtained? The following possibilities suggest themselves.

Government manufacture.

Government inspection.

State inspection (under Food and Drug Acts.)

Pharmacopeal recognition.

Special commissions.

This is not a matter for casual consideration. The control must not be loosely conducted. The absolute necessity requires a product upon which undoubted reliance can be placed. From the use of diphtheria antitoxin alone Dr. Reilly has calculated that the saving of life in the city of Chicago for the five years 1896-1900 inclusive, has amounted to $22,780,000, if based on the legislative value of human life. Not one case can afford to be lost.

Government manufacture is not necessary and I should be against it, because it would limit private enterprise.

As an example of Government inspection, the German method may be cited. Diphtheria antitoxin is tested by the official testing station and the vials are sealed by it before being placed on the market. Such a station could be established by the Marine Hospital Service or inspectors could supervise production and testing in the laboratories of producers. Vaccine is produced in Germany at the official im[illegible]-stationen, and a careful record of each lot and the results obtained is kept. The reports of every physician using a particular lot is therefore at hand as a means of controlling the work done in the station. Control by the state would naturally come under the present arrangements as outlined in Food and Drug Acts. Certainly special facilities would be required. These departments are now

practically limited to chemic investigation and there can be no reason why they should not be equipped for every kind of scientific investigation. Drug inspection has been a matter of difficulty in most states, but it has been principally because no definite requirements are stated in the laws. I should not consider such control as entirely satisfactory but it may be advisable because it should be easy to obtain.

The committee on revision of the pharmacopea have the subject of listing biological products under consideration, and it is probable that some favorable action will result. The chief difficulty that presented itself was as regards the advisability of introducing tests that require animal experiments, or bacteriologic methods. If it is not possible to establish these at this time a beginning should be made by listing the more important products supplemented by

Definition
General characters and source
Physical properties
Rules for preservation

They should not be sold by the druggist like patent medicines. He should understand the reasons for deterioration and the limitations of the products, and be able to keep his supply up to the requirements.

The advisability of a commission of the American Medical Association or some other body to report is an open question. The British Medical Association is proceeding in this way. Under any circumstance it can only be temporary and cannot conduct continuous control. Information can be obtained, but control is too laborious and expensive for a commission, and they could not enforce changes as required by the findings of investigation. I should therefor advocate the placing of these preparations in the pharmacopea and controlling them by a system of either state or national inspection.

MILIARY TUBERCULOSIS.*

BY FRANK X. WALLS, M. D., CHICAGO.

Since Ponfix demonstrated a tubercular lesion of the thoracic duct in a case of miliary tuberculosis, and Weigert found a caseous lymph node communicating with a branch of the pulmonary vein, the explanation of the miliary dissemination of tuberculosis has been elucidated. For the occurrence of acute miliary tuberculosis, it is necessary to presuppose a primary tubercular focus and from this site the entrance of abundant bacilli into the blood stream. This penetration may occur directly into an artery or vein or indirectly into the blood stream through the thoracic duct. The entrance can usually be discovered postmortem after careful search, though it may readily be overlooked. Cornet says that from an ulcer of 1/10 of a millimeter in circumference an area that is not recognizable macroscopically over 100,000 tubercle bacilli can simultaneously march through a vessel wall. The question might occur, "Why is not miliary tuberculosis more frequent in phthisical individuals?" The reason probably is that the action of the tubercular poisons on the surrounding tissues is towards encapsulation and limitation of the tubercle bacilli, and if the focus be near a vessel wall, the poisons are diffused beyond the histological tubercle in advance of the bacilli themselves, and set up a plastic inflammation with thrombosis and obliteration of the vessels. In children, on account of the wider and more porous lymph vessels, the poison is more quickly and widely diffused into the surrounding tissues. Because of its wide diffusion and dilution with the tissue fluids, the toxins are less potent, and may reach the blood vessel wall without occasioning any considerable local irritation, so that the rapidly multiplying bacteria may reach and penetrate a blood vessel which has not undergone conservative thrombosis. The younger the individual, the less the tendency to tubercular limitation, and the more readily may a blood invasion occur; consequently, we find miliary tuberculosis more frequent in the young. Certain factors favor the occurrence of miliary tuberculosis. All irritants, mechanical, inflammatory or other kind, which excite the pre-existing tubercular focus, increase the liability to the development of miliary tuberculosis. Espe-

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cially to be mentioned in children are measles, whooping-cough and influenza, which frequently awaken a dormant tubercular focus and occasion a rapid extension into an adjacent blood vessel. Trauma may rupture an encapsulated focus and cause its quick dissemination; cough may be regarded as a form of trauma which, acting on the bronchial glands may tear the gland capsule and liberate the tubercle bacilli. After operations on tubercular bones, or joints, or tubercular tissue, not uncommonly, tubercle bacilli enter the open blood vessels, grow into them and become disseminated.

The location of the primary tubercular focus explains the pathologic anatomy of miliary tuberculosis. The lungs, spleen, liver, kidney, bone-marrow, and meninges are the organs most frequently studded with tuberculosis, but no tissue of the body is exempt from tubercular localization. Miliary tuberculosis may be general or local, depending upon whether the tubercle bacilli entered the general circulation or penetrated some part thereof.

The symptoms that are present in miliary tuberculosis, are due to the systemic poisoning with the tubercle protein and partly to local tubercular formation. The symptoms are both general and local. Among the general symptoms we may consider fever. The temperature rises often without prodromata to 102° to 103° and, as a rule, is not so high as in typhoid. In the charts I exhibit, this characteristic of the temperature is well illustrated. The temperature range being from 101° to 103°, while in typhoid, with corresponding general symptoms, the temperature would average 1 or 2 degrees higher. The fever is of no definite type. In the subacute cases the irregularity of the temperature is of some diagnostic value. Sometimes it is continuous or irregularly remittent. In the very acute cases, a continuously high temperature much like typhoid or perhaps the inverse type may be observed. Exceptional cases have been reported in which the temperature never exceeded 98.6°, and this group of cases is analogous to the afebrile course that typhoid, pneumonia, or sepsis may pursue in rare instances. The pulse, as a rule, is said to be very frequent, small, soft and occasionally dicrotic. In the cases here presented on the contrary, the pulse was not accelerated until the course of the disease was nearly run.

Date.	Temp.	Pulse.	Resp.
April 1—1 a. m.	102.	82	15
3 p. m.	101.6	80	—
8 p. m.	101.2	—	28
April 2—2 a. m.	103.2	81	31
5 a. m.	101.6	74	30
9 a. m.	102.6	—	—
5 p. m.	101.4	—	—
8 p. m.	102.	60	30
11 p. m.	——	64	—
April 3—3 a. m.	102.2	75	30
7 a. m.	101.8	81	27
9 a. m.	102.3	76	31
11 a. m.	102.4	—	—
3 p. m.	——	—	35
7 p. m.	101.2	83	29
8 p. m.	101.2	83	29
10 p. m.	102.	—	—
April 4—5 a. m.	101.8	—	—
6 a. m.	101.8	85	30
8 a. m.	102.	85	31
12 m.	102.4	—	29
6 p. m.	102.2	—	—
10 p. m.	102.6	79	26
April 5—3 a. m.	102.3	—	—
6 a. m.	102.8	89	25
9 a. m.	102.6	84	32
2 p. m.	102.8	92	37
7 p. m.	102.7	89	35
April 6—3 a. m.	——	85	27
5 a. m.	103.	84	30
8 a. m.	102.	89	29
4 p. m.	102.6	86	35
7 p. m.	101.6	85	31
April 7—2 a. m.	102.6	79	29
6 a. m.	102.6	92	27
11 a. m.	102.8	88	28
2 p. m.	103.	90	28
3 p. m.	103.	—	—
5 p. m.	102.5	—	—
9 p. m.	102.8	88	28
April 8—8 a. m.	102.4	—	—
11 a. m.	101.6	96	34
3 p. m.	103.2	94	—
10 p. m.	102.7	90	30
April 9—1 a. m.	102.1	88	30
5 a. m.	102.2	98	28
6 a. m.	102.4	—	—
8 a. m.	101.1	94	33
3 p. m.	102.6	91	38
6 p. m.	102.6	—	—
8 p. m.	102.	90	30
Apr. 10—1 a. m.	103.	90	30
5 a. m.	102.7	—	—
9 a. m.	103.6	94	31
11 a. m.	102.	—	—
5 p. m.	103.2	—	34
Apr. 11—2 a. m.	102.8	—	36
8 a. m.	102.6	94	33
3 p. m.	102.	92	34
Apr. 12—8 a. m.	102.4	96	34
4 p. m.	——	—	—
7 p. m.	101.4	—	—

Date.	Temp.	Pulse.	Resp.
Apr.12—10 p. m.	101.2	—	—
12 p. m.	100.8	—	—
Apr. 13—5 a. m.	101.8	—	—
3 p. m.	101.8	104	37
5 p. m.	——	98	—
Apr. 15—8 a. m.	101.	—	33
1 p. m.	101.6	—	24
6 p. m.	101.8	—	38
Apr. 16—1 a. m.	102.4	98	—
6 a. m.	102.	100	—
7 a. m.	101.6	100	35
12 m.	100.8	100	34
7 p. m.	102.8	102	39
Apr. 17—1 a. m.	102.5	90	30
6 a. m.	102.5	86	29
1 p. m.	102.8	—	—
4 p. m.	——	—	40
6 p. m.	103.2	90	46
12 p. m.	102.7	104	33
Apr. 18—8 a. m.	102.9	115	33
1 p. m.	102.	103	32
7 p. m.	102.6	110	37
11 p. m.	103.2	110	35
Apr. 19—6 a. m.	103.	104	30
6 p. m.	101.6	120	44
11 p. m.	102.4	112	36
Apr. 20—4 a. m.	100.	108	38
7 a. m.	101.8	112	46
2 p. m.	102.6	112	35
6 p. m.	102.8	116	44
12 p. m.	102.	120	46
Apr. 21—4 a. m.	101.9	124	42*
8 a. m.	102.5	120	40
10 p. m.	102.	128	38
Apr. 22—3 a. m.	102.9	114	42
7 a. m.	——	112	48
11 a. m.	102.6	112	42
3 p. m.	102.8	112	34
10 p. m.	103.2	120	36
Apr. 23—6 a. m.	103.2	114	38
7 a. m.	102.6	114	32
12 m.	103.	114	36
6 p. m.	102.2	112	40
12 p. m.	102.9	112	36
Apr. 24—6 a. m.	102.2	112	40
10 a. m.	103.	—	41
1 p. m.	103.	116	48
2 p. m.	103.	—	43
7 p. m.	103.	116	43
12 p. m.	101.2	124	50
Apr. 25—6 a. m.	101.4	112	48
8 a. m.	102.8	116	45
1 p. m.	103.4	118	43
7 p. m.	103.6	118	50
11 p. m.	101.4	154	62
Apr. 26—1 a. m.	100.4	112	50

Expired 2:10 a. m., April 26, 1900.

*Extremely restless.

The heart exhibits a tendency to become weak, and may precipitate a pulmonary edema. In rare cases a hemorrhagic diathesis is present with profuse bleeding from the nose, gums, intestines or other organs. Respiratory symptoms are usually early present and strikingly prominent. There is some cough, which is frequent and paroxysmal. The respirations become fast, even 90 in children, combined often with very marked dyspnoea which is remarkable in that the physical findings do not explain it. (Vagus irritation.) Later, the Cheyne-Stokes respiratory phenomena may be present. The sputum consists of a sparce, foamy, colorless mucus containing no tubercle bacilli unless there exist an ancient tubercular focus in the lung, but it may contain blood from some ruptured capillary or perhaps it may be rusty from an accompanying pneumonia. Symptoms on the part of the nervous system are especially prominent whenever there is any involvement of the the meninges or brain. In many cases the sensorium is remarkably clear in contrast to the dull lethargic state in typhoid. Headache, delirium, shrieking, sighing, teeth-grinding, hyperesthesia, convulsions and particularly with spinal and basal meningeal involvement, frequent vomiting, changeableness of pulse, strabismus, alteration in the size of the pupils, painful stiffness of the neck and Kernig's knee-symptom are met with.

The digestive and urinary symptoms are such as occur in profound systemic intoxication. The mouth and tongue are dry with black coating, there may be scorbutic gums, frequent nausea and vomiting (meningitis.) The stools are undigested, there may be diarrhoea, perhaps blood (ulceration.) Loss of strength is an early symptom and emaciation is, as a rule, steadily progressive and extreme. The urine is dark, contains much urates, may be albumin, or anuria may occur. In the event of nephritis the usual findings in the urine will be present. Involuntary bowel movements and urination may occur.

On a part of the skin a most valuable symptom is cyanosis, observed particularly in the lips, nose, and fingernails—cyanosis in the absence of extensive pulmonary or cardiac signs. Sweating may be profuse. Certain eruptions on the skin have been observed, roseola and erythema nodosum, and herpes, when a mixed pyogenic infection. Miliary tubercles in the skin are very rare. Towards the lethal termination there may be a considerable anasarca.

The physical findings on a part of the chest are those usually found in diffuse bronchial catarrh. Unless there be an extensive primary focus or some thoracic exudate, no change on percussion is elicited, though perhaps with the growth of tubercle a diminution of lung tension may occur and resonance become tympanitic. Ausculation reveals abundant rales, crepitating or subcrepitant or small mucous rales and what is of especial value is the disproportion between the physical signs and the existing cyanosis and hurried breathing. Gradually or suddenly the symptoms increase with exitus under the clinical guise of a lung edema. If the pleura is involved we may hear or feel a friction rub, and effusions are not uncommon. The heart frequently exhibits a systolic murmur, and the second pulmonary tone is more accentuated than is usual even in childhood. In the event of pericarditis a friction bruit might be palpated or auscultated, or the signs of effusion into the pericardial sac may be demonstrated. The spleen is usually large and may be palpable, but often it is so soft that it is hard to feel. In the choroid of the eye, Litten observed the miliary tubercles 39 times in 52 cases he examined with that point in view.

The duration of miliary tuberculosis may be anywhere from a few hours to many months. Perhaps an average time for the severe cases would be two to three weeks. In its course a certain symptom grouping may be followed so that there are described certain types of miliary tuberculosis, among the most characteristic being the typhoid, the pulmonary, and the meningeal types. These terms are sufficiently explanatory of the grouping and as may be surmised these types are variously blended.

The diagnosis of miliary tuberculosis is extremely difficult. The demonstration of tubercle bacilli in the blood is the single condition that permits a positive diagnosis of generalized miliary tuberculosis and this demonstration is by no means a simple task. With meningeal symptoms we might search in the cerebro-spinal fluid for tubercle bacilli or examine the choroid for miliary tubercles, or more rarely find them in the pharynx or larynx. The sputum usually fails, but it should be searched as likewise should be the stools and urine for the specific bacteria. In the failure of the demonstration of the tubercle bacillus or its products as just indicated, a diagnosis might be assumed from the anamnesis, the grouping of the symptoms and after careful exclusion of other infections, particularly typhoid, malaria, cryptogenetic sepsis or septicopyemia, or where localizing symptoms are in the foreground, profuse bronchitis, pleurisy, pericarditis, and meningitis depending on other exciting factors must be differentiated. The prognosis is hopeless. The disease is almost necessarily fatal, though healing is possible.

The sole treatment is in prophylaxis; avoiding primary tubercular infection. In the event of a primary focus if it be operable it should be removed by surgical intervention, if inoperable, we should avoid those conditions that are known to assist in the dissemination of the tubercle particularly to be mentioned, exposure and the infectious diseases.

The case, from whom the specimen I exhibit was obtained, was a Polish boy, 1 year old. Very little of the family history was obtainable. The paternal history was unknown. His mother developed acute insanity a week before the child was taken to the hospital. Personal history. The infant was nursed by his mother until six months old, when mixed feeding was given. There was no history of any previous illness. The child lived in a crowded tenement and during the severest period of the past winter, he was carried out of doors all the day with insufficient bodily covering by his fatuous mother, who thought that in this manner to inure him to the hardships he must endure from their poverty. When the mother was committed to the hospital for the insane, the child was sent to the infant asylum. He was a child of large frame, pale skin and a considerable development of subcutaneous fat, and he weighed 21 pounds. His ribs were distinctly beaded and he had four teeth, the central incisors. Over both lungs, front and back, could be heard abundant dry,

medium sized rales. Otherwise the examination was negative. A week after admission it was observed that the child had a frequent dry, harassing cough, and had a poor appetite. A few days later he began to vomit after nearly every feeding and his cough continued. Examination of his chest revealed very many dry and moist rales diffused over front and back of chest. For another week the symptoms continued and it was apparent that he was losing flesh and strength each day. He had become very restless and would frequently cry out in a shrill voice and toss himself wildly about in bed. He had a short dry cough, at irregular and infrequent intervals, there was no sputum. The skin was dry and very pale with no exanthem or cyanosis. His urine became scant and contained some albumin with granular and epithelial casts. The respirations were somewhat accelerated and examination gave the signs of a diffuse bronchitis. He became progressively weaker and 20 days after his entrance into the hospital he died. The record of his pulse, temperature and respiration is appended. (p. 243-244.)

Twelve hours after death the examination showed the body moderately well nourished, and rigor mortis marked. Thorax. Right lung pale slatey color, crepitates feebly, base of a dark reddish color, but not consolidated. Left lung is in about the same condition as the right, except the lower part of the left lower lobe is much firmer, crepitates but faintly and in the substance of the lung there can be palpated a large number of very firm bodies about the size of small shot. The color of the base of the left lung is of a decidedly dusky-red hue. Under the pleura can be seen a great number of very fine sub-miliary granules that beset this portion of the lung. These granules are yellowish white in color with a ring of congested lung surrounding them. On section of the lung it is seen that the tubercules are confined to the lower half of the posterior lobe of the left lung. The bronchial mucosa throughout both lungs is slightly swollen and reddened. The mediastinal glands are enlarged, about a half a dozen to the size of almonds, very hard on section, and of a glistening white color, with small areas of cheesy softness. Following the pulmonary artery into the lower half of the posterior lobe of the left lung, we meet with a caseous gland about the size of a Boston bean that has eroded, and lies exposed within the wall of the vessel, and the tubercles in the lung are confined to the area supplied by this branch.

In the intestines, four inches above the ileo-cecal valve is a small ulcer six m. m. in diameter with raised edges and smooth and level base. About the middle of the ileum there is a second smaller, and almost healed, ulcer. The solitary and agminated follicles are slightly swollen and pigmented. The mesenteric glands are enlarged some being almost an inch in diameter. The smaller glands are red and soft on section, and the larger ones are yellowish in color, and on section show irregular areas of caseous detritus lying in dense fibrous reticulum. The liver is slightly swollen and of normal color save a few pale yellow areas, but contains no tubercules. The spleen is of normal size and somewhat firm consistency. The kidneys are slightly enlarged. The capsule peels easily and on section the cortex is seen to be swollen with the markings in places blurred.

The report of this case and exhibition of this specimen, in addition to its general interest as a case of miliary tuberculosis, suggests a question of extreme interest; i. e. the relative frequency of primary intestinal tuberculosis, or better expressed, the frequency of generalized tubercular infection arising from the alimentary tract. The query expressed in the second way carries the wider interpretation. In cases of primary intestinal tuberculosis we understand a condition in which there is a demonstrable infection of the intestine with tubercle bacilli. In the second case there may be no recognizable lesion of the bowels. Leonard Pearson has shown from experiments in feeding animals with tubercular material that they may develop pulmonary tuberculosis without showing lesions of the intestine, though the infectious material reached the lungs from the intestines. This

specimen is indubitably one of primary tuberculosis of the intestine with generalized dissemination, and had not the accident of exposure and rupture of a caseous lymph node into a branch of the pulmonary artery occurred, the belief is warranted from the appearance of the intestinal ulcers that the intestinal tubercle bacilli were healing and in a short time would have left no trace of its former site. However, latent tubercles would have been present in that organ most predisposed to tuberculosis, and less resistant to its ravages, the lungs, and with sufficient impairment of the general resistance might have become diffused through the respiratory tract, and on post-mortem examination have appeared as though primarily pulmonary. Moreover, it is unnecessary that the tubercles coming from the intestine should travel such a slow and barricaded road as in the present case, they may enter the lacteals and via the thoracic duct be poured into the blood stream to be arrested in the finer vessels of the lung.

WHAT SHALL WE TEACH THE PEOPLE IN REGARD TO TUBERCULOSIS.*

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The State Board of Health is charged with the duty of guarding the lives and health of the citizens of the state. It is its duty therefore to seek out and apply the best that is known in public hygiene and sanitary methods. But the best work cannot be done by the board alone, but must be accomplished by the co-operation of the people, and this can be secured only after they have become well informed upon sanitary subjects.

It therefore becomes our duty to answer the question, "What should we teach them in regard to tuberculosis?" What shall we teach the five millions of people of our state in regard to the most important disease which affects them; and their duty in regard to it? Much good has, we believe, been accomplished by the Board in sending out Circulars of Information in regard to Smallpox, Scarlet Fever and Diphtheria, and we believe much more can be done by sending out a similar circular in regard to consumption. The following paper contains the essentials of a circular which I am preparing for distribution and I invite your criticism of both the method and the matter:

MODE OF DISTRIBUTION OF LEAFLETS.

1. To the newspapers as the educators of the public.
2. To local boards of health.
3. To teachers and principals of schools.
4. To all physicians in the state.
5. To families and friends of families where tuberculosis is known to exist.
6. To anyone making application.

Our efforts should be directed in behalf of the patients whom we desire to help and the public whom we desire to protect, and our instructions should be simple and practical rather than scientific, but above all things we should teach the truth.

Tuberculosis or consumption is an infectious, preventable, curable disease.

Prevalence.—1,500,000 human beings in the United States are suffering from it; 2,500,000 cows in the United States are affected by it.

The studies of Behring seem to refute the statements of Koch and support the contention that human and bovine tuberculosis are identical with the exception of slight morphological modifications due to environment.

Cause.—The disease is caused by the tubercle bacillus. The chief source of these germs is the sputum of consumptive patients. It is estimated that a case of moderate severity expectorates seven billions of these germs every 24 hours.

These germs are given off from the lungs with the sputum which is hawked or coughed up, cast upon the sidewalks or the streets, upon floors or carpets or public places, or upon the clothing. The sputum becomes dried up, mingles with the air and dust of the home or the street, from whence the germs may be breathed into the lungs, thus becoming the chief source of infection. They are very tenacious of life, resisting

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ordinary destructive processes for months. They may be eaten by flies, live in their bodies, may be deposited by them upon food as meat and milk. They may be found on the floors, walls, etc., of the rooms of consumptives.

Thus the man who is able to do some work and goes about, spitting on the street, in the street cars, on the floors of the home, the workshop, or public places is a far greater menace to the lives of others than is the seriously ill patient, at home in bed.

MODES OF COMMUNICATION.

When we say that it is an infectious disease, this means that it may be communicated from one person to another, and probably from man to the lower animals, and from the latter to man. It is not necessary to have personal contact in order to become infected. The paths by which these germs enter the body are the respiratory and the digestive tracts chiefly; but they may enter through an abrasion of the skin of the hands or face or other part of the body. That is, the germs are either inhaled with the air, or swallowed with the food and drink, or gain entrance through some wound or sore upon the body.

Heredity.—From the remotest times, there has been a general belief in the influence of heredity in disease and especially consumption. Owing to a clearer knowledge of pathology, many of the diseases which were formerly thought to be the outcome of hereditary proclivity, are now known to be due to infection. Some diseases are directly transmissible, and in addition to this, there is an inheritance of structural peculiarities. In tuberculosis we have an example of the inheritance of both tissue modification and the disease itself. That is, the form of chest and type of tissue in which the disease develop most rapidly is certainly inherited. But what is inherited is not alone a tendency to tuberculosis, but an increased vulnerability to adverse conditions of all kinds. Such persons fall easy victims of tuberculosis, not because they have inherited the disease, but because they have inherited the kind of soil or tissue in which the disease develops most readily. Add to this that in such families, there are usually some cases of consumption we have the patients who are especially prone to the disease placed in the most favorable circumstances for becoming infected. Most of those cases in which the disease itself is inherited die before the end of the first year. No case of tuberculosis in adult life is a case of inherited disease. It is always an infection. Few persons are born tuberculous; all are probably born tuberculizable. Some persons seem to possess unusual resisting power, are not easily infected, and this is known as immunity.

Susceptibility varies in different individuals and families as the result of hereditary differences, just as protection or immunity does. Both may be varied by diet, habits and mode of life. Thus the normal resisting power, immunity, may be diminished or even destroyed by overwork, worry, fatigue, great anxiety, bad habits, excesses, intemperance and extreme exposure. Thus rats which are naturally immune may be readily infected after being overworked and fatigued, or after being kept under the influence of alcohol for some time. On the other hand, children born of tuberculous parents, if removed from the likelihood of infection and properly reared, are likely to remain free from the disease. For example, over 15 per cent of the cows of Germany are tuberculous, and yet only one calf in every one hundred thousand is born tuberculous. Those calves born of tuberculous mothers and taken away from them and fed on pure milk do not contract the disease. If healthy calves are fed upon the milk of tuberculous cows, they become infected. We thus see that there are three principal factors in the problem.

1. The germ, the bacillus of tuberculosis.

2. A varying susceptibility to infection by it.

3. Two principal routes through which the germ enters the body; the respiratory and the digestive tracts.

To ignore any one of these factors is to fail in its solution; to recognize all three and the influence of each, as well as our limitations in regard to each, will be likely to

lead to the best results. Let us consider each in detail.

IS IT A CURABLE DISEASE.

Autopsies show that one-third of all persons have had some form of tuberculosis at some time in their lives, while only one-seventh die of the disease. In other words, one-third or 23 out of the 70 millions now living in the United States will have the disease and only one-seventh or 10 millions will die.

The other 13 millions will get well. We thus see that over half of all cases recover. This is amply confirmed by the clinical experience of all observant physicians.

RULES FOR THOSE WHO HAVE THE DISEASE.

The Germ.—It must be apparent that the destruction of all the tubercle bacilli would put an end to the disease, but desirable as this is, it is quite impossible. Our efforts must be directed towards reducing them to a minimum. The first rules should be in regard to the disposal of the human sputum as this is the chief source of the bacilli and hence the chief element in infection.

RULES.

RULE 1. Tuberculous patients should never, under any circumstances, expectorate upon the floors of the home, the workshop or public places, where the germ may subsequently be a menace to others. To do so is criminal negligence. Every tuberculous patient owes to his family, friends and society, to see to it that he disposes of his own sputum. Thirty-eight states recognize this fact by law.

The handkerchief should not be used as it may contaminate towels, napkins and wearing apparel of others. Old pieces of cloth, pieces of gauze or cheese cloth may be carried in small pieces and after use may be burned at once, or else placed in envelopes, preferably parafined, and subsequently burned. If cuspidors are used, they should always contain Standard Solution No. 1.

2. First of all, remember that consumption is a curable disease, and that one-half of those who have it recover from it.

3. There is no other disease in which so much depends upon the individual efforts of the patient. It is not so much a matter of medicine as of correct living, proper food, climate, exercise, sleep and hygienic living.

4. While your first duty is to yourself, for "charity begins at home," your second is no less clear and imperative: You must not menace the health and lives of others.

Every person suffering from consumption suffers from a disease which may be communicated to other persons. This takes place through the spit, which contains bacilli. So long as the spit is moist it can do no harm, unless under such circumstances as are dealt with in rules 6 and 7.

The spit is gravely dangerous only when allowed to dry, becoming dust, and so infects the air we breathe.

The surest way to form infectious dust is to spit in a handkerchief and put it into the pocket or beneath the pillow, or to spit upon the floor.

The same results follow if spit is smeared over bed clothes, night dresses, etc., or, in case of men, over mustache or beard.

Practically then, a case of consumption may be made perfectly harmless by preventing the spit from becoming dust.

1. *Indoors.*—The greatest care is necessary. Dust in closed places is the dust which infects. Use a spitoon containing a little water (not sand or sawdust) or spit into a rag or piece of paper, to be burned at once or thrown into the water closet.

2. *Out of Doors.*—Dust is not so readily formed in our climate and it is disinfected by sunshine and fresh air. It is therefore better to spit on the ground than into a handkerchief, or into anything which is apt to be put in a pocket, except a special spit bottle, such as may be had for a small sum. Failing in this, spit into a gutter, never on the pavement, and never in a trancar, bus, cab or railway carriage. Never swallow the spit; it may infect the bowels.

3. If a handkerchief or other article is soiled with tuberculous spit, keep it wet until it can be boiled or washed.

4. Empty the contents of the spittoon down the water closet, and clean the spittoon with boiling water. A little carbolic acid will kill the flies; these carry off the infective matter.

5. In cleansing rooms occupied by con-

sumptives, capture the dust with damp dusters and tea leaves or damp saw dust used in sweeping. Do not chase it about or stir it up. Boil the dusters; burn the saw dust and tea leaves.

6. No spoon, cup or other article which has been applied to the mouth of a consumptive ought to be used by a healthy person until it has been carefully washed. The remains of food left by a consumptive ought not to be used by the healthy.

7. No consumptive ought to kiss or be kissed, except on the cheek or brow.

8. No consumptive mother should give such kisses.

9. Consumptive persons ought to have a bed by themselves.

10. Consumption is not communicable by the breath or perspiration. If these precautions are attended to there is no danger to the healthy in the ordinary intercourse of family or society.

During the currency of cases of tuberculous disease in which there is a discharge, the medical officers will give any assistance in the way of washing and disinfection which may seem expedient in the public interest.

Tuberculous patients should not be allowed to work at—

A. The care of cattle, especially cows.

B. The preparation of foods, as dairy maids, cooks, bakers, milk dealers, etc.

HYGIENE.

Hygiene.—Let us now consider the second element in our problem, susceptibility to infection. As we cannot destroy all the germs, our hope lies in everything which will enable the body to contend most successfully against invasion by disease; to prevent it if possible, and to fight it successfully after infection has taken place. There is truth in the old adage, here as elsewhere, that "an ounce of prevention is worth a pound of cure." Preventive medicine is dominated by the noblest motive that ever animated the human race.

GENERAL RULES FOR THOSE WHO ARE PREDISPOSED.

1. First of all is the law and the gospel of cleanliness. This means personal cleanliness in regard to the body, the teeth, the hair and the nails. Cleanliness of the home, the streets, cleanliness everywhere.

2. Temperance in all things. Alcoholism is the most potent factor in the propagation of tuberculosis today. It not only predisposes to infection, but regular indulgence greatly increases the virulence of the infection and hastens a fatal termination.

3. Eat an abundance of properly cooked, wholesome, easily digestible nutritious foods. Be especially careful to avoid excesses in sweets or anything which will favor the occurrence of acid dyspepsia.

4. Live as much as possible out of doors and in the sunshine. Choose such work as will favor this, and avoid sedentary occupations and the professions. It is better to be a live farmer than a dead doctor.

5. Choose such exercises as will promote health and favor the expansion and develment of the lungs and general vigor of constitution.

6. Breathe an abundance of pure air, both day and night. To do this it may be necessary to live in the country. It is better to be alive and well in the country than dead and buried in the city.

7. The house should be so chosen as to avoid a damp situation.

8. Select a climate, if possible, with at least a moderate elevation, preferably hilly, with a maximum of sunshine, a minimum of rainfall and warm enough to invite to out-door occupation, sports or exercises.

9. Sleep in a well ventilated room with an abundance of fresh air.

10. Avoid smoking rooms and smoking cars and poorly ventilated public assembly rooms.

11. Change climate in order to avoid the extremes of cold in the northern winter, or the heat of the southern summer.

12. Be especially careful to not live with consumptives, to not occupy premises formerly occupied by a consumptive unless such premises have been disinfected with great care and by sulphur fumigation.

13. Never eat suspected meat nor drink suspected milk.

14. The clothing should be of wool next to the skin in winter, and warm shoes should

be worn and every precaution taken to prevent taking cold.

15. Avoid mouth breathing. When there is any impediment to free nasal respiration in either the nose or throat, a competent physician should be consulted.

16. Give especial care to any pulmonary symptoms.

17. Above all things avoid everything which lowers the vitality and diminishes the resisting power, such as overwork, too little of long vacations, exhaustion from work or exercise, exposure.

18. Remember that you *have not inherited consumption,* but only a weak constitution, and that in no other disease does so much depend upon yourself and your own efforts.

19. Do not marry a consumptive or one who is predisposed to the disease.

20. Fifteen per cent of the cows of the United States are tuberculous and may be a two fold source of infection; through the meat and the milk. Therefore in all suspected cases, the meat should be well cooked and the milk thoroughly boiled. Merely heating it or bringing it to the boiling point is not enough. It should be boiled for twenty minutes.

21. There is no danger in living with tuberculous patients, so long as these rules are rigidly observed. In the Adirondack Cottage Sanitarium, devoted exclusively to the care of tuberculous patients, there has not been a case of tuberculosis among the physicians, nurses, or attendants in 15 years.

22. Gradual progressive loss in weight should make you suspicious and should lead to an expert examination of the lungs. This is especially true, if in addition to loss in weight there is increased frequency of the heart beat, with a slight fever in the afternoon that is increased by exercise.

Disinfection: All rooms occupied by consumptives should be kept scroupulously clean. Unnecessary draperies, carpets, etc., should be dispensed with. If sputum or other discharges accidentally fall on the floors or walls, the spot should be cleaned immediately with boiling water. The rooms and all the furnishings should be thoroughly disinfected as often as once in four weeks at most.

1. The Breslau formaldehyde method or the use of sulphur are the methods recommended. The sheet process is unreliable.

2. All premises or rooms, sleeping car or steamer berths, occupied by a consumptive in a home, hotel, boat, car or hospital, should be as thoroughly disinfected before it is occupied by another as it would be in the case of small-pox. This should not be attempted by anyone except someone properly qualified.

3. All personal clothing, bed linen, handkerchiefs, belonging to a consumptive should be washed by themselves and very thoroughly boiled.

4. All dishes, spoons, knives and forks, etc., used by him should be thoroughly washed and boiled before being used by others.

Notification. All persons affected with consumption are urgently requested to notify either the local health authorities or the State Board of Health.

It should be distinctly understood at the outset, that there is no disposition or desire on the part of the Board to placard or quarantine the premises or in anyway to interfere with or curtail the rights of any one. The sole objects are to try to be of some service in curing those who are sick and preventing the disease in those who are well; to furnish information and help to those vitally interested.

Herman M. Biggs of the Department of Health of New York, at a recent meeting of the New York County Medical Society stated that as the result of 12 years of work and experience, there had been a reduction of over 35 per cent of the mortality from consumption in New York since 1886, and *attributes it largely to notification.* Some states have compulsory notification. Voluntary notification is far preferable.

CONCLUSIONS.

The man who expectorates in a vehicle or public resort, does not merely violate public decency, but commits an offense for which he should be punished. Health board warnings and placards in street cars avail nothing if not enforced. So long as women sweep

infected sputa with their dresses they will suffer from tubecular disease and communicate it; so long as the dust of dried sputa is disseminated and inhaled in public vehicles, every passenger is endangered. Men and women, especially women, are urged to form associations for the rigorous suppression of indiscriminate spitting, and Boards of Health will do better service to the community if they direct their best efforts towards the prevention of tuberculosis.

The segregation of those already afflicted in local sanatoria as advocated at the Berlin congress, will ultimately check the progress of this frightful scourge and add immensely to the sum total of human happiness.

Discussion.

L. C. Taylor, of Springfield: Dr. Webster has so thoroughly covered the ground as to what should be done for the regulation and prevention of the spread of tuberculosis, that it would simply be a repetition for me to attempt to discuss his paper, and I will, therefore, only refer to one obstruction which we have had to contend with and that is in regard to the manner in which people should be taught. In our cities that are more or less under political control, we have had considerable difficulty in getting the proper legal enactments which will teach people how to take care not to spread contagion. In our own town of Springfield, we thought some years ago, when the State Veterinary Commission ordered the killing of a large number of tubercular cattle, that it would be a good opportunity to give the people an object-lesson in regard to tuberculosis. We deputized some of the members of the State Board of Health to go to the members of the City Council and invite them to attend the slaughter of the cattle. We also extended a similar invitation to the press, and to the public at large. We thought that if they saw the cattle killed, they would appreciate the confirmation of the diagnosis of tubercular disease. Even after seeing some sixty or seventy cattle slaughtered, and seeing our diagnosis thoroughly confirmed, we still had the greatest difficulty in getting the City Council to pass a law requiring that all milk sold in the city should be brought from dairies that had a certificate of good health from the veterinary.

I think, from my own observation, that we have been a little behind other countries in promulgating some sanitary laws among the people. In the tramways of Vienna, and all of the public conveyances in Berlin and Paris, placards are put up by order of the Board of Health, announcing the danger of expectorating on the floor, and also that it is prohibited by law. They have gone a little further than this in Paris. For instance, in the mail stations they have caused to be placed large placards in which they describe, for the information of their employes, and the public as well, the dangers attendant upon promiscuous expectoration, and the manner in which the disease is to be fought and eliminated. They have put on this notice the statement: "On account of the public health, it is ordered by the Sanitary Commission, that persons shall not expectorate on the floor, and that a violation of this law will subject the offender to arrest." That they have not gone quite so far in this country is evident from the placards we see put up right here in this hall. I have seen one which says that persons are prohibited from spitting on the floor. There is a placard in this room saying that persons are prohibited from spitting tobacco juice on the floor. It does not, however, prohibit anyone from throwing the tobacco quid on the floor or anywhere else. That placard is probably put up in the interest of the janitor, so as to lighten his labor, or perhaps it is simply a matter of cleanliness. They ought to go just a little farther. Our city councilmen and those who have charge of our public buildings can be taught to place placards in public places where people are assembled that it is not only forbidden, to spit tobacco juice on the floor, but that they are prohibited from spitting on the floor at all, no matter what the juice. It is the only way in which this law can be enforced, and this serious danger combatted. It is the physicians who should take this matter in hand, and we trust that Dr. Webster's pamphlet which the State Board of Health is sending to all the physicians in this State will be productive of the desired results.

Robert H. Babcock, of Chicago: Do I understand that Dr. Webster proposes to have embodied in his leaflet all the facts which he presented in this paper?

Dr. Webster: Yes.

Dr. Babcock: The paper is very exhaustive on this subject, and one can but commend all that has been said. It is questionable, however, whether in attempting to enlighten the public one should attempt to enlighten them too much at first. Would it not be better, perhaps, to enlighten the public on fewer things to begin with? The Doctor spoke of the inadvisability of the intermarriage of tubercular people or people having a tubercular tendency or inheritance. That is a matter of great moment, but I question whether such an item should be introduced into a leaflet which is to be distributed broadcast among the people. Let us begin by enlightening the people on certain points which we consider absolutely fundamental, and, of course, we all must admit that the first thing to be taken up is the spitting habit. We must spend all our energies toward instructing the people concerning the dangers of expectorating promiscuously, whether they have tuberculosis or not. Unfortunately, we all know that even medical men are careless about this thing, and if medical men are careless about public spitting, surely the people will be, and before we can succeed in having laws enacted which will control this matter, we must work up some public sentiment.

The second matter of fundamental importance is with reference to tubercular cattle and milk. The necessity of eliminating, so far as

possible, tuberculous cows from our dairies, and prohibiting the distribution of tuberculous milk is a paramount one. If that can be done, much will be gained. If that cannot be done, however, then the proper treatment of milk which is possibly from tubercular cows should be considered.

Third, the item concerning the notification of the Health Board of consumptive patients. That is very important, but I agree with the Doctor that is is hardly advisable at present to insist upon compulsory notification. But if we enlighten people concerning the benefit which is to arise from notification of the whereabouts of tuberculous patients, the thing can be accomplished just as efficiently as if we had compulsory notification. We cannot insist upon these things too emphatically, and it lies with every physician to instruct his patients, whether they are tuberculous or not, concerning these points. I hold from my own experience in coming in contact, in a consulting way, with many physicians, that most of them are altogether too careless and lax on these points, if, indeed, some of them are not absolutely ignorant of all hygienic principles, especially so far as pertains to the prevention of the spread of a contagious disease.

Sanger Brown, of Chicago: I have been wondering if, perhaps, we had not been drawn away somewhat from the hygiene of tuberculosis by Koch's discovery. I am rather afraid we have. Dr. Webster's emphasis of the importance of cleanliness as a matter of extreme moment is a timely one. Cleanliness can be readily carried out, no matter whether a person is rich or poor, and no one needs to spit in the cars or on the floors of public buildings. Public attention is very generally drawn to this tuberculosis just now, and any utterances of ours on this point are likely to be heeded. Therefore, we, as physicians and advisers of the public, should be sure that we give the best advice. I believe, however, that there is one thing which is of more importance than spitting and cleanliness, and which demonstrations during the last fifty years have shown to be of importance in preventing a spread of tuberculosis. I refer to ventilation, the ventilation of the home. Most elaborate experiments have been made in past years in armies and navies and especially those of Great Britain, where large bodies of soldiers have been kept in barracks, with limited ventilation, for years, and in all climates. When these soldiers had the same food, used alcohol in a similar way, and had the same habits, and were taken from narrow, close quarters, where ventilation was imperfect, and placed in barracks where the ventilation was good, the death-rate for tuberculosis has fallen as much as 75 and 80 per cent. This shows what ventilation will do.

The same is true on shipboard, and it seems to me that it is unreasonable that we should be led away from the main thing by a series of scientific investigations,—well made, to be sure, for I do not wish to detract from their importance in the least. Dr. Webster has alluded to ventilation in his paper, but I feel he has not emphasized it enough. Not many months ago I heard an excellent paper read by Dr. Babcock, on the treatment of tuberculosis. He considered the out-door treatment of the disease, and said that it gave him the best results. That, in my opinion, is certainly the best treatment, and if we overlook it we will have to reckon with the public in the future. Ventilation means fresh air, and, therefore, we ought to go into the factories and offices where there is no ventilation and instruct the people along those lines. I think that would be very much more important than simple cleanliness, and should be insisted upon. Of course, we must expect to meet with some obstacles in this work. It is a matter of great expense and it will be difficult to get people who have offices to rent and who own factories to allow sufficient space for ventilation. We must stand firm and insist on that point, however, and disseminate education along these lines.

R. C. Matheny, of Galesburg: I would simply like to ask a question. There comes a time in all cases of tuberculosis where any real active treatment is devoid of any result, and I imagine that the outdoor treatment, which has been advocated so strongly, by Dr. Babcock, is also ill-advised at certain times. I would like to have Dr. Webster tell us, if he can, how long he would institute the outdoor treatment, and whether he can give us any idea as to the chance the tubercular patient has, so far as recovery is concerned, in advanced cases.

Dr. Walker, of .....: I believe it is a historical fact that tuberculosis was entirely unknown in the days of Abraham, when everybody lived outdoors. I think tuberculosis was also unknown among the American Indians until they began to live in houses or huts. I am convinced that ventilation is an all-important factor in the prevention of this disease, which is unquestionably a house disease. There is another important preventative, if you please, and that is physical culture. Of course, the newspapers make a great deal of sport of our Senator Mason on account of his bill in behalf of physical culture, but I believe it was the best ever introduced in the United States Senate. There is no question in my mind but what we have an over-dose of physical culture just now in our monthly magazines, but the outdoor treatment of tuberculosis, combined with physical culture, deep breathing, is the one method by which we can hope to cure it or prevent it. I have seen patients taking a course in some physical culture establishment do wonders without ever taking a drop of medicine. I have seen a man with tuberculosis, who was unable to walk at all, ride miles within three weeks on horseback and run along with his horse, and yet gain ten or twelve pounds; a man, fifty-five years old, at that. That was in 1899, and when I heard from him last he had gained thirty-five pounds. This is of course, a single instance, but I could go on and mention many others. The natural method of treatment is the best. We get too far away from nature in this climate. There are many air cells that we never use at all, and that is the place, in the apex of the lung, where tuberculosis usually takes

root and begins to develop. It is in these sluggish areas that the lung tissue is not active enough and affords a nidus for infection. Therefore, I think that in addition to the things mentioned in Dr. Webster's leaflet, we might effectually add how to teach people something about this deep breathing, and about living outdoors.

T. J. Pitner, of Jacksonville: Respecting the conditions that favor the development of tuberculosis, I have made some observations amongst people who are living in a colony in Jacksonville. They were exiles from their native country, and came to Jacksonville and Springfield and settled these two colonies, the only two in this country. They came from the Island of Madeira, where tuberculosis, as you are well aware, is unknown, and hence there was no hereditary predisposition to tuberculosis in any of these people. They had one habit which was very striking. It was their ambition to buy a little piece of ground and to build thereon a little house. They were people who wanted a home. They came from a land where such a thing as a stove was unknown. No heat was needed, but here it became necessary for them to heat this little house. It was a small house, and they heated it in the most economical way. A stove was usually used, and like all people coming from warm climates they could not get heat enough, and therefore every breath of fresh air was kept from entering into their habitations. No matter what the physician said, these poor people went on breathing and re-breathing the same air. The consequence was that they began to die in large numbers from tuberculosis. Our records in the city of Jacksonville show that since these people came in there we have had a much larger percentage of deaths from tuberculosis than before, and that most of it was not among the native population. I have practiced among these people for a long time, and know this to be a fact.

Long before Koch advanced his theories, we had computed that the element of contagion entered into the consideration of the etiology of this disease, and was a very important and prominent factor. The breathing-in of the impure air of the little home by these people was certainly not conducive to preventing the spread of the disease. The deaths from tuberculosis in those colonies are increasing year by year. The facts may, of course, be explained by one or both hypotheses, but both contributing the specific contagion—the transmission by contagion and then the condition of the impure atmosphere.

A. W. Baer, of Chicago: With regard to what we should teach people in the matter of prevention of tuberculosis, I, too, will refer to the American Indian. In his work on the Indian, George Catlin distinctly says that the Indians who live in the open air, breathe through their noses, and keep their mouths closed, very seldom or never have tuberculosis. As to the question of expectorating, it has always appeared to me that most of the expectorating that is done is simply a matter of habit. It is a fact that the more you expectorate, the more you want to, and you will find that after a little time the uvula is lengthened out long enough to irritate the back part of the tongue sufficiently to create a desire or to compel one to expectorate more than usual. I have found that either by cauterizing the uvula with red heat or by snipping off the end of it, this expectorating habit is usually very promptly cured. One application of the cautery will usually reduce the habit.

Dr. Webster (closing the discussion): I am very sorry that in my effort to save time it was necessary for me to give merely an abstract of my paper, and not go into the details. In regard to the question asked by Dr. Babcock, as to the proposed method of distribution of these pamphlets, they were distributed as we distribute the other papers, first, to the newspapers; second, to the local boards of health; third, principals and teachers of public and other schools; fourth, to all the physicians in the State; fifth, to all tubercular patients, and to all those living in a neighborhood where tuberculosis is known to exist; sixth, to all those asking for them.

A short time ago we had an epidemic of scarlet fever in Evanston. Many people in that district became frightened, and asked me to send them instructions with regard to the care and prevention of scarlet fever. We at once sent out, on the same day, two thousand of our circulars considering scarlet fever, one to every householder living in that district. That is the same way in which we will send out these leaflets, where we know that they will do the most good. These leaflets are intended, not only for physician, but for everybody, the teachers and principals of schools, householders, and everyone else.

In regard to the question of ventilation, which was brought up by Dr. Brown, I have a whole page here in my paper devoted to the question of ventilation. I have even given the exact amount of cubic air space to be allowed for each person. I have tried to make a strong point of that. Indeed, I have tried to make two strong points. First, the danger from the germ, which we cannot control, and, second, how people should live, which we can control, by means of pure air, cleanliness, and good ventilation. You see, I tried to emphasize the importance of ventilation.

In regard to Dr. Matheny's question, how far a patient may go and still recover, that comes up under prognosis, and if I should talk on the question of prognosis, and consider all the elements that enter into it, I am afraid that it would consume all the time allotted to this subject.

In regard to the conditions which favor the development of tuberculosis, I think that they have been gone into sufficiently by the other speakers. The important point is, I believe, to educate the people in regard to these important principles of prevention, and then follow it up with specific rules on each point, what they should do, and what they should not do.

Arrange now to attend the next annual meeting at Chicago next May.

THE LIMITATIONS OF SURGERY IN GYNECOLOGY.*

BY O. B. WILL, M. D., PEORIA.

Bearing on the subject of this paper, the writer entertains certain feelings which he finds some difficulty in expressing in terms of exact justice and circumspection.

He absolutely knows, for instance, as do others, that there is an alarmingly large proportion of gynecological cases subsequently coming under observation, in which operative interference has proven worse than useless in securing the comfort and health sought by the patient. Again, in an equally large per centage of women upon whom surgical treatment has been advised, he has seen complete recovery follow much less heroic and drastic measures. He could give in detail a tiresomely long list in each of these classes, from personal inspection, and made up from the work, not of amateurs alone, but from that of those in whom we are all accustomed to place the best of confidence. He would have it understood, therefore, that he is prepared to defend his position in this matter, and that he is not considering the subject merely from a sentimental standpoint, and without an adequate knowledge of the salient facts, at least.

But while observations of the kind mentioned are exceedingly impressive, and calculated to make one stop and think, it is difficult fully to place responsibility and suggest a practicable remedy. Mistaken diagnosis do you say? If so, more reprehensible is the radical practice. Certainly they argue a defect somewhere, not only individual competency, but in the consensus of professional public opinion which establishes no adequate standard of either moral or scientific justification. It is easy to escape personal culpability on the ground of legitimate variation in judgment, but certainly there should be some means of restricting the latitude of such variation, on the basis of generally acceptable indications, in order to avoid the gross blunders or worse which constantly tend to the disrepute of professional exactions. We seem to need not so much more facts, as more knowledge, strength and wisdom, in order to avoid faulty conceptions on the part of the average surgical mind.

The nebulous state of knowledge respecting the mutual relations of local and general physiology, and especially the misleading calculations on reflex influence, to say nothing of the marvelous therapeutic claims of undue enthusiasm, have proven deterrent to righteous but timid criticism. It seems fair to hope, however, that an effective reaction has begun, and it should be encouraged by every fair means at command. It is a cheering sign to see some of the formerly strenuous advocates of operative self-sufficiency creeping slowly to the defense of rational conservatism in both theory and practice. The more fear now is that in time the pendulum will swing too far the other way, and it would seem to be the duty of the evenly disposed to mark if possible a potentially vigorous line of limitations.

No one is now-a-days rash enough to arbitrarily place a limit to the advancement of science; but science and speculation are two entirely different things. There is such a confusion of the term with mere hypothesis and experiment, that one is justified in repressive considerations. The principles of common-sense recognize the relation of the whole to the part, as well as *vice versa*.

But while the needs of modern gynecology are marked by demands other than that of a mere riddance of disabled organs, likewise are they heavily indebted to thoughtful surgery, and the aim should be for a discriminative standard, to hold in check the forces of the erratic and impetuous.

By the term "limitations of surgery," etc., in this connection, therefore, is meant the extent of justifiable operative effort, of the several well-known types. In other words, the minimum of surgical endeavor compatible with relative local and general indications. The lines of demarcation, if you please, between the prudent and the imprudent utilization of the several distinct classes of operative procedure resorted to in the various gynecological disorders.

*Read at the 52d Annual Meeting, Quincy, May 20, 1902.

While some of these limitations are self-evident, and consequently beyond discussion for present purposes, others are admittedly unmarked, and of such an evasive disposition as to prove embarrassing if not dangerous to all concerned. Under the head of what may be denominated "reparative" surgery, for instance,—as necessary in the lacerations—the limits are definite and fixed; self-indicative, the indications for repair being co-extensive with the degree of solution of continuity. The injured part, in other words, bears *prima facie* evidence of its special needs.

In "ablative" surgery, on the contrary, the circumstances are of quite different character. While it has been fully demonstrated that all the organs distinctive of sex in woman may be removed without necessarily sacrificing her conscious entity, no one would be willing to accept that limit as the approximately practical one in most cases. It is so broad, so all-inclusive as to be worthless as a guide to judicious effort. The extent of the pathology which calls for the ablation is sometimes uncertain. Difficulties in diagnosis, and ignorance or prejudice of other therapeutic methods and instincts have made the limit more indeterminate. It seems proper, therefore, to honestly attempt a delineation of those controling features which appeal to common experience, and narrow the horizon of doubt and speculation. Such a differential effort will tend to fix personal responsibility, and stimulate greater care.

The possibilities of ablative surgery are involved especially with the ovaries, uterus and tubes. And it fortunately so happens that those organs are unusually available for approximate diagnosis. This must be accounted a distinct advantage in efforts at pre-limitation of operative needs. Accuracy in this respect tends to eliminate adverse criticism. It makes classification more secure, and serves to restrict ablative effort to its proper sphere. And finally, it offers a safe-guard against ignorant assumption, for the reasons to be pointed out.

The truth, established on the basis of growing experience, is that but a meagre field is now open to exsection. As laparotomy for merely diagnostic purposes must be now mostly abandoned, so must exsection be eliminated excepting for distinct tumors or neoplastic developments, for absolute tissue disorganization, and for purulent or analogous accumulations. But even within this circle there are narrower lines of demarcation. The ultimate pathology is often more of a factor in results than eradication of the gross manifestation, and it is a good rule in surgery to make the limit of offensive action strictly coincide with that of the disease. When, therefore, it is called to mind that the ovary is essentially a cystic organ, that a part is identical in function with the whole, that enlargement does not necessarily mean disease and that degrees of preservation answer in measure physiological demands; when it is realized that patulous tubes are perforce in hopeful condition, that the uterus is an organ so constituted and situated as to be amenable to all necessary kinds of depletion and stimulation; that over and above all, the old theory and practice of evacuation along lines of least resistance have returned to plague the inventive genius that attempted to retire them, it must be readily seen that the sphere of ablative surgery is rapidly narrowing in the natural course of evolution, and that its limitations are on the verge of rational fixation. The whirligig of time works wonders, and shows that true progress is not always in the forward direction. An acceptance of its indications will restrain many an enthusiast from undue petuosity, and avert many a galling criticism.

In this connection, and by way of a concrete illustration, I cannot refrain from a sharp word of remonstrance relative to the minor ablative operation of uterine curettage. The limits of prudence in this act are constantly overstepped, and the writer has seen hundreds of cases made worse by its use and abuse. Apparently no reasonable restriction in its application is recognized by the profession at large ,and yet men of observation know that it is a most menacing procedure, and should be resorted to only with the utmost care, and under circumstances of specific need. It ought not be

done once where it is now done at least a score of times, and unless its just limitations are studied and responded to it must continue to be the cause of much disaster and disappointment.

But the storm-centre, so to speak, of operative effort in gynecology is now to be found in the field of what may be called "reconstructive" surgery. It is the one in which is shown the most misguided and ill-considered surgical enterprise. It is the direction in which operative exuberance finds its most promising outlet. It constitutes a variety of procedure in which the changes are constantly being rung with frightful rapidity, and apparently without regard to the anatomic and physiologic principles involved. This is illustrated, if not in the oft-repeated destruction of function, then in the mere exchange of one sensory evil for another, in nervous and mental debasement, with no adequate compensation. It attempts by various devices of operative ingenuity to substitute artificial abnormal conditions for natural abnormal ones. Adhesions are alternately broken up and encouraged. The plastic possibilities and opportunities of each and every area are given full play. Theory after theory is advanced and acted upon only in turn to be discarded. Stretched ligaments are given more stretch. Attenuated fibres are made more attenuated by increased stress. Pressure is relieved at one point to be increased at another. The uterus is split in order to destroy its functions, arteries destroyed to interrupt the circulation, and nature madly defied in her efforts to point out the way. The integrity and functions of the local nervous and vascular systems are interfered with. Tissues are misplaced and transported regardless of their normal relationships and impulses, and a state of more or less complete anarchy is induced in the female pelvis. Experiment pure and simple runs riot, and the dictates of physiologic philosophy are insulted.

In this line so-called misplacements of the various organs, and attempts at rectification call for the major portion of attention. There seems to be a no more fruitful field than this for disagreements, misunderstandings and demonstrations.

The classic "falling of the womb," with all its associate disorders, has eternally been synonomous with professional inadequacy, and is but little less humiliating today than a thousand years ago. The ideas of the perpetual motion crank, and of him who would elevate himself by his own boot-straps, have continued largely to govern the treatment of this disorder, or association of disorders. As it was at one time the prerogative of every gynecologist to invent a new pessary or speculum, so is there now no reluctance to accept the responsibility of devising some new operation for misplacement of the uterus. This latter has given even greater variety to the kaleidoscopic features of gynecological progress. Thus far, however, it has eventuated in nothing more stable than the apparent fact that woman must continue to suffer from these uncertain efforts. It may be as well that she suffer with them as without them, but the conclusion is neither pleasing nor satisfying to the scientific and humanitarian mind.

It seems to the writer that in respect to this subject, and as a fundamental starting point, the status of the organs concerned and their attitude under conditions of health are not accurately and vividly understood and asserted. Comparatively few—perhaps none of us—have a proper conception of the normal condition, position and attitude of the female pelvic organs, especially those immediately concerned in the process of generation. The academic diagrammatic out-put in that direction has changed from decade to decade, varying with the observation and reasoning of the individual author. Today the prevailing pictorial illustration represents in the lateral half of a female pelvis a corrugated black line of vaginal closure, into which is nicely fitted the cervix of a well-formed uterus, whose straight and becomingly balanced walls flank an axis at about right angles with the aforesaid vaginal slit. The bladder is neatly folded into a three-cornered, napkin-like parcel and comfortably tucked away in a convenient nook between the pubic arch and the uterus. The ovaries are primly in proper position, and together with their respective tubes are lightly supported in space by something that is

not apparent. They present a beautiful aspect in their freedom from all sorts of encroachment and perversity of demeanor, and as one admires them he is almost temped to freeze his patient, with her obstreperous organs, and fix them likewise into an eternal calm of normal rectitude.

But in the actuality we find distinctions with corresponding differences. The ideal is lost in the reckless aspects of the real. The faultless conceptions of the dreamer must give place to the variations of the actual.

There need be no great difficulty experienced in securing opportunity for examination of the female pelvic organs under conditions of good general health, such as usually falls to the lot of mortals. Certainly as perfect as any of those from whom "frozen sections" are likely to be obtained.

When one has in a number of instances secured that opportunity, what does he find? A great variety of shapes, sizes and contour of uterus, with infinite variations in condition, position and attitude. What does it all mean? It means that in regard to these features there is not nor can there be any precise fixed and invariable "normal" standard. It means, in fine, that the essential reproductive organs of woman were meant by nature to have and enjoy immense latitude in size, shape, position, movement and development, and that *in so long as they are intrinsically and integrally healthy* almost any variation in position and attitude inside the body is compatible with just claims of well-being. Retro and anteversions and flexions are in themselves not necessarily pathologic conditions, as any wide observer knows, else we should be obliged to consider at least fifty per cent. of women abnormal in structure; in which event the preponderance of testimony would be in favor of our being mistaken in our interpretation of the term "normal." A rule with as many or more exceptions than applications must in the nature of things arouse suspicion as to its accuracy. Again, the mere matter of weight of the uterus ceases to have the same significance when we reflect that in the essentially normal condition of pregnancy that organ so greatly increases in dimensions and ponderosity, without endangering necessarily or usually the functional integrity of adjacent organs and parts. We must realize, of course, that functional compensations are associated with the condition in illustration, but even so, compensatory activities are constantly developed in the human organism in efforts at maintenance of health, and the fact should be taken into consideration in estimating the importance and value of any apparent morbid presentation.

The fact is, in regard to these various "misplacements" and so-called morbid attitudes, that most of them are not in and of themselves disorders, but are disturbing elements only in the sense that they are associated with integral pathological conditions. A retro-verted or flexed uterus, while not a pathologic factor *per se* may readily become one in association with a prolapsed, inflamed ovary, or a diseased rectum, or a pelvic neuritis. Likewise a normally anteverted uterus may become a most distressingly morbific agent in case of a cystitis, or irritable bladder. It is thus apparent that these pathologic imputations are on a merely relative, and not a fixed, basis. Indeed it might be reiterated with little fear of successful contradiction, that the interstitial condition or state, and not the conformation, attitude or position of any of these organs is at the bottom of the diseased manifestations. I have seen women in a state of comfortable health with the uterus and vagina protruding from the body, and others wretchedly miserable with them in place in their approximately orthodox positions. But neither of these observations argue anything but the fact that nutritive and not mechanical disturbances were the essential factor of the morbid impulses.

If this salient position of intrinsic organic nutritive defect as the source of pelvic ill-health, is accepted, it is plainly to be seen that but little of relief can be expected through the innumerable plastic operative procedures, unless done for their direct influence on the meta-morphosis of tissue, and that consequently a not far reaching limitation to them is an obvious necessity.

Fixations and counter-fixations are, in the pelvic cavity illogical, and contrary to both

common and physiologic physics. One operator deems adhesions of any kind anywhere between organs, of pathologic import, and proceeds at every opportunity to break them up, on general principles. Another, under the glittering inspiration of reconstructive ideals proceeds to contract adhesions here, there and everywhere almost, avering that where he wants them to they will linger, while where they are not needed, faith in nature's power of discrimination will be rewarded by a timely absorption and consequent release.

Why not try to free ourselves of the many false notions of mechanical expediency, and study more closely the natural and inevitable limitations of constructive as well as destructive art in connection with gynecology. It will be found that the larger proportion of the local ills of women are due to conditions entirely dissociated from the application of operative surgery. These it it not my purpose at this time to attempt to recount. Suffice it to say regarding them in this connection, that we all have, as before said, constantly brought to notice in our own experience and that of others the most ingenious and surgically successful operations without the least relief to the patient. A circumstance that is as suggestive as it is unsatisfactory and humiliating. Indicative of the fact that in our zeal for doing something radical we have overlooked the more subtle, but essential, nature of the disorder.

As before hinted, where operative interference can justly be counted to best assist in restoring mechanical and vital equilibrium it is always and surely indicated, but its application should be limited to such a consummation. The removal of deleterious products, be they distinctly abnormal growths, hypertrophies or degenerative debris, is a justifiable act of ablative surgery, in response to the protective demands of normal nutritive effort. Even complete denudation may be justifiable when destructive disorder is co-extensive with the reproductive organs involved. But that is a very different thing from the transposition of tissue relationships which characterizes in so large a measure the efforts in what I have called the field of reconstructive, or more properly perhaps, re-adjustive work.

A tissue which has lost its *tone* cannot be restored by any process of elimination nor by any process of re-duplication. The more the tension on it is increased the greater and surer its final devitalization, destruction and physiological collapse. Abbreviations of ligaments, of fascia, of membranes and skin, as well as doubling and folding of them, all smack of useless subterfuge. They are but make-shifts, and in the very nature of organic plasticity can be of but temporary value at best. The stream cannot be maintained at a higher level than its fountain. Normal elasticity of tissue cannot be restored by such means, and mere increase in bulk is no assurance of strength, and can avail a good purpose only where padding is a desirable adjunct. No mere anatomical rearrangement can satisfy functional demands, no artificial cajolery excuse a faith in abnormal substitutes. There must be taken into account not only the grosser manifestations of disorder, locally speaking, but those finer, more ultimate activities of tissue metabolism upon which the former depend, and especially the neural relationships, both motor and sensory, in their actions and reactions both local and general. It is this complex of influences of which so little is known and to which so little attention is given, that foils so often the therapeutic prognosis. Often the operative specialist is a diagnostic failure. His knowledge of general physiology is either limited or neglected, his training along neurologic lines is defective, and he sees mainly the possibilities of his art in a direct sense. He does not see, what is so often the case, that neurotic displeasure and not structural or positional defect is at the bottom of pelvic pains and distresses, and that there are many conservative means far removed from destructive intervention which will accomplish a better purpose.

The whole energy of professional endeavor, in a large proportion of these cases, needs be in the direction of securing *stability of fibre* through improved circumstances and processes of general and local nutrition, rather than in mutilating inter-

ference with anatomical arrangement. For the former there is no direct substitute in the arts of man. His mechanism may be perfect in its way, but it lacks the element of responsiveness to its own needs. All acceptable endeavor must be through nature's own channels. The therapeutics of the future must probably deal more and more with substances derived from the animal body, and while we know little as yet of the nature of the actions and reactions within the economy, we do know from practical observation of many circumstances favoring their proper routine development in connection with nutrition, and should look more to such aid in the restoration and maintenance of function, than to various interruptions of continuity yet more ambiguous in their tendency. It must have in view such encouragement to normal nutrition as will meet physiological demands Food, digestion; mechanical, chemical and electrical stimulation, both general and local.

That surgery can be made further available in that direction is doubtful. If by any maneuver of it, nerve tissue can be made to respond to the vital demands upon it, muscular fibre be increased in quantity or improved in quality, connective tissue multiplied and stored with fat, and vascular tone and energy be made responsive to the demands, then its mission has only begun. If not, its practical limits have been reached in the sphere of gynecology, and must be further narrowed with each succeeding decade, until "occasional enucleation" and "repair" alone remain its watch-words.

Discussion.

T. J. Watkins, of Chicago: Mr. President.—I believe that this beautiful word picture, this timely paper, should not go by without some discussion. I am very glad that Dr. Will spoke against operating on cystic ovaries. It would seem that there is no excuse for gynecologists treating sclerocystic ovaries until the pathologists have given us more definite ideas as to the real nature of the trouble, or, in other words, until they have determined it is a pathologic and not a physiologic condition. I believe I never see a case that suffers from sclerosis of the ovary, or from sclero-cystic degeneration of the ovaries, not including normal ovarian cysts, and I hope the time will soon come when there will be less attention paid to displacements of the uterus, as Dr. Will has indicated in his paper. The subject of anteversion should not receive any attention in any of the text books, because there is no such thing as a pathologic anteversion. One almost never sees cases of pathologic anteflexion, and, as the Doctor says, very few cases of backward displacement of the uterus cause any trouble unless there has been an infection of the ovaries and tubes, and one is very seldom called upon to treat cases of backward displacement where there has not been salpingitis and ovaritis.

I agree with what he has said regarding laceration of the perineum. The fact that a woman has some tear of the perineum is no indication in a gynecologic sense for an operation. What he said about laceration of the cervix is likewise true. Almost every woman, who has had a child, has had a laceration of the cervix, and very few of them require an operation. It is a physiologic, and not a pathologic, condition. There are two indications which we should bear in mind, one is erosion, and the other marked cystic degeneration.

S. C. Stremmel of Macomb: I do not feel like permitting some of the statements made by the essayist to go by unchallenged. I have done a great deal of gynecologic work, and while some of my results have not been as satisfactory as I have anticipated and expected, that is, in some cases, I am convinced that some of the surgical procedures which the doctor deplores are eligible operations and should be continued to be done. I do not believe it would be the concensus of the leading surgeons all over the world to keep on doing these operations for years and years if there were nothing to them. Mal positions of the uterus are in themselves a source of discomfort, sufficient in many instances to incapacitate women from doing hard work, and we have a deleterious effect produced from many of these lacerations, and I am convinced from my own experience that a great deal of good has been accomplished by timely and well planned operations. I would like to show the doctor some patients upon whom I have operated for displacements of the uterus and for cystic ovaries, so that he might get a clear idea of the state of their health before operation and at the present time. These things are so, and to deplore the matter on the ground that a few of us do too much operating, possibly in unselected cases, I don't believe is right.

Dr. Will (closing the discussion): I have no desire to discuss the matter any further, except to remove some misapprehensions. In the first place, I do not wish to be understood as claiming to avoid the repair of lacerations, but I distinctly stated that the indications for repair were not always present. The extent of the laceration should indicate the extent of the operation for repair. Understand me, I am not condemning operative procedures; I am condemning the utilization of operative procedures where they are not necessary, and I know they are not in a great many cases in which they are done at all necessary, because they do not accomplish anything. When we have experimented a little and have found out that an operation does no good, it seems to me we should not continue doing it indefinitely when it is contrary to all physiologic sense. I

have done a great deal of operating from time to time myself, but my claim is that we should be conservative along these lines, and not be eternally operating for the sake of doing so and simply for the sake of blinding one's self to correct diagnosis.

PROCEEDINGS OF STATE SOCIETY.

Minutes of the Fifty-Second Annual Meeting held at Quincy May 20-22, 1902.

The report of the Judicial Council was next in order, and was read by J. F. Percy.

Report of the Judicial Council.

Mr. President and Members of the Illinois State Medical Society:

But one subject for our care and consideration was reported to us by the general society at its meeting in Peoria. This was embodied in the following resolution: "Resolved: That the Judicial Council select some member of the Society to act as Editor and Manager of the Journal; said Editor and Manager to be paid a reasonable amount of salary to be determined by the Judicial Council."

The report of the Editor as to his management of the Journal will come before the Society through Chairman Cook of the Judicial Council.

Whatever else we have done aside from the above matter of the conduct of the Illinois State Medical Journal, since the Peoria meeting of our Society, has been but a reflection of the recommendation given us at the Springfield meeting of the Society in 1900, where we were instructed to see what we could do in the way of influencing the appointment of the best qualified medical men and women to the positions of responsibility in the State institutions, where the services of physicians were required. Whatever we may have attempted this year without direct instructions from the Society, whose servants we are, nothing was done in this or any other matter without mature consideration, either on the part of the Council as a body, or of its Executive Committee.

You will remember that the resolution above referred to, read as follows: "That the Judicial Council of the Illinois State Medical Society be authorized to present to the Governor a list of physicians eligible to appointment on the State Board of Health and to all other offices in the State to which physicians are usually appointed by the Governor. The Judicial Council to be guided in their recommendations by suggestions of local medical societies in good standing." When the Judicial Council was instructed by this Society to take an interest in the political appointment of physicians to the State eleemosynary institutions, it was probably not divined by the Society that the entire field of political appointments must necessarily be the subject of their consideration. We learned that mere recommendations would be ignored with respectful contempt. We were soon made aware of another thing, and it was, that the average politician only respects organized bodies of voters who are looking after the fulfillment of the demands that they may have made on the political powers of the State. The Council then, was in the position where it was either to make its recommendations as directed and then fall back into a position of indolent complaisance, or on the other hand, to use all honorable means to see at least that its recommendations were respectfully considered. This last was the course finally chosen. And it was done mainly because we assumed, of our own knowledge, that the great body which we represent, had been too long derelict to its duty toward the wards of our State Institutions, in that we had not demanded for them the best that our profession had to offer. Again, we could not help but feel that the matter referred to us in the recommendation above quoted, was but the synchronized voice of the profession of this great State, beginning to demand that it be recognized in these matters which so vitally appeal to its usefulness and power. It is to be regretted that there is no accurate means of knowing just how much good the passing of the above resolution by the State Society has had on the profession as a body, throughout the State. We do know, however, of the many instances where physicians have been moved to join the Central Society in order to be in touch with whatever good might come in the future through any action that this Society might take, because of its more perfect organization. This has been

especially true of those who were looking for positions under the State government.

It has been a question in the mind of every member of the Judicial Council just how far it should or could go, under the Springfield resolution of 1900. The Council has ever had before it, the realization of the fact that the work that it was doing along these lines was in the nature of an experiment. That we had no precedents to guide us. The question has been debated at our meetings as to whether it would not be wise to recommend to the Society that a new committee be formed for the purpose of looking after the political affairs in the State which are of interest to the medical profession as a whole. But nothing definite or tangible has been done with this suggestion in the way of authorizing the presentation of this as a recommendation from the Judicial Council. At one time it appeared to us that it was pre-eminently the work of the Legislative Committee, but Chairman Black of that committee has well pointed out that for his committee to take up such work, must of necessity at times bring them in conflict with a successful politician for whose defeat they had left no stone unturned. Assuredly then, it would not do to subject this very important committee to the possibility of embarrassments of this kind. A case in point, is the one now pending in the thirty-second senatorial district of this State where Ex-Senator O. F. Berry, who championed during his term a bill that was very objectionable to the whole profession of this State, is seeking re-election. This is the bill that was fortunately vetoed by the late Governor John R. Tanner. The original bill for which the Ex-Senator above referred to, stood sponsor, would have thrown the State wide open, without any legal control whatever, to any and all kinds of quackery, no matter how preposterous. Essentially, all that this bill required, was, that such individual or individuals should claim that they were practicing medicine under the methods permitted in the bill. The championship of this bill was persisted in, in spite of the formal protest of many of the physicians in this Senator's district. No attention, however, was paid to these objections by the Ex-Senator who is now seeking re-election.

In the early part of January of this year, one of the physicians in Ex-Senator Berry's district and of the same political faith with him, wrote to C. B. Horrell, Secretary of the Military Tract Medical Association, detailing what has been written above and inquiring not only for the doctor's personal influence to defeat the nomination, or if that was not successful, the election of Ex-Senator Berry who was seeking re-election. Dr. Horrell turned the correspondence over to the secretary of the Judicial Council by whom it was transmitted to every member of the Council. The secretary was then instructed to communicate with the Ex-Senator as to his past and prospective attitude in case of his election, toward the medical profession. The Senator' reply was so frank and apparently open, that when it was communicated to the members of the Council, the secretary was instructed to write Mr. Senator and congratulate him on his interest in and work for scientific medicine. Before doing this, however, the secretary of the Council communicated with some of those who were members of the State Board of Health at the time when this matter was before Governor Tanner. The information derived from this source put an entirely different aspect on the Ex-Senator's relationship to the measure in question. Suffice it to say, that he was, while serving as a Senator, accepting fees, to push measures for the undoing of the medical profession through the Senate of this State. Our relationship as a Judicial Council to this matter was discussed at a meeting of the Executive Committee of the Council held in Galesburg, January last. Later, the matter was fully discussed at a meeting of the Judicial Council, held in the Great Northern Hotel, Chicago, April 3d of this year. At that meeting, every member of the Council was present and the unanimous opinion of the members was, that if the State Medical Society ever had a legitimate right to go into politics, it was in a matter of this kind, which so vitally concerned the profession of this State.

In April, the secretary of the Council was invited by the Monmouth Physicians' Club,

to meet with and discuss with them the practical political side of this question. As a result of that conference, the following resolution was adopted:

"*Resolved*: That the Monmouth Physicians' Club at its regular annual meeting, held in the city of Monmouth, April 4, 1902, does protest against the nomination of O. F. Berry of Carthage, Ill., to fill the office of Senator from the 32d Senatorial district.

The reasons: His record while in the Illinois Senate in 1897, on matters relating to rational and scientific medicine was such as to fail of commendation by the members of the Monmouth Physicians' Club. In the event of his nomination at the convention to be held at Macomb, we will use every honorable means in our power to prevent his election to the high office to which he aspires."
(Signed.) W. H. Wells, Secretary.

The Secretary of the Council was also invited to address the Warren County Medical Society at its annual meeting held in the city of Monmouth, May 3d. As a result, the same resolution as that previously acted upon by the Monmouth Physicians' Club, was adopted with but one dissenting voice.

The thirty-second Senatorial district comprises the counties of Warren, Hancock and McDonough. The above action, therefore, of the Warren County physicians was most significant. The Council was also asked to present this matter to the Hancock County Medical Society through the secretary of the Council. This was done at the annual meeting of the Society held at Carthage, May 5th last. An interesting political status was found to obtain in this county which was well brought out at this meeting of the physicians. Of the ten men who were present, all were Democrats but two, and the secretary of the Society is authority for the statement that the same relative proportion obtains throughout the county, viz: Eight Democrats to two Republicans. After a splendid debate in which the general welfare of the profession as a body, was ably discussed, it was decided not to commit the Society formally against the condidacy of Ex-Senator Berry for re-election. The reason given was, that the large majority of the membership being Democrats, any action that they might take as Democrats, would but aid the Senator in his contest.

In brief, this is one part of our report. It is given that you may see and realize that the Illinois State Medical Society must consider at this session, or at least, at a not very far distant session, its relationship to the political powers of the State. And to make this effective, some method should be devised by which a responsible committee can act for the Society in the interval between the annual meetings.

In our report of last year, we referred to this matter in the following words: "If it is the purpose of the State Society to aid the administrative powers of the State in the future in the selection of men and women in every way best qualified to fill the positions to be filled, in other words, to go into politics, it is absolutely necessary, in order not to fail, to have the intelligent co-operation of every medical man and woman in every medical organization in the State. To do less than this is to invite failure of a most hurtful character, and to fail now will put us back many years, and that, too, in a most humiliating way." We deem this a matter of great importance, and respectfully call the Society's attention to it again.

At a meeting of the Council held in the early part of last October, the above matter was fully discussed, especially by the older members of the Society, who are also members of the Judicial Council. The fact was well brought out at that conference, especially by Dr. Mitchell of Carbondale, that the conditions for political appointment have changed and we must devise plans to meet the emergency. We know that the politicians have placed our State Executives under vastly more obligations to them than have the physicians, and until we can do likewise, we need not expect to control much of the political patronage. Dr. Mitchell made the further point at that meeting, that the physician who thinks it is beneath his dignity to go into politics is unworthy of the name *American Citizen*. Continuing, the doctor said: that the Council had sowed the seed of our political edifice and that if we can only push forward in the right direction, we will in the future become a political power

and can have something to say relative to the appointment of our *best* medical men to positions in our State institutions. As to the best method for accomplishing this, the doctor suggested the following: In the political organization of our State we have what we call a State Central Committee, consisting of a certain number of gentlemen from every congressional district in the State, and we have a County Central Committee, in every county. He stated that his plan would be to have in this State Society, a committee that would be to the State Medical Association, what the State Central Committee is to the State political organization. The members of this committee should be distributed over every portion of the State. Now give to each member of that committee, a district consisting of a certain number of counties. Let each member organize the physicians in his district and have them see that at least one physician is appointed on every county central committee, both Democratic and Republican. Urge these committeemen to attend every political caucus and meeting, spend time, and money too, if necessary, and in addition, make himself generally useful to the committee during the entire campaign and thus aid in every honorable way possible, to carry the election. When the campaign closes, we shall then have the political machine under obligations to us; and then, and not until then, can we have a voice in the State appointments as is justly our due.

One more word along this line and this part of our report will be left for the consideration of your best judgment and advice. It is this: We have not accomplished all we had hoped for when the Society in 1900, instructed us to look after the appointment of physicians to the State charitable institutions; but in several important particulars we have received recognition never before accorded any body of medical men in this State. First; your Judicial Council has been granted on several occasions, an official audience with Governor Yates, as the representatives of the medical profession of Illinois. He has recognized us by his correspondence. Second; he has based his State Board of Health membership on the membership of the Illinois State Medical Society. Third; he has refused to appoint, in two instances at least, physicians who were slated for important positions under the State government, when the Judicial Council protested against such an appointment, because of the general lack of qualifications on the part of those about to be appointed. In one of these instances, the personal correspondence between the Governor and the Council was short, sharp and to the point. The Governor contended that his prospective appointee was all right and asked for proof to the contrary. This was promptly furnished. Result: The appointment was not made. We also regret to say (and this without discreditable reflection) that in several equally important instances, he has taken a different view from that expressed by the Council. We have reason to believe that in one or more of these instances, he has reason to regret that he did not accept such suggestions, but this should not give us liberty to impugn his motives.

It is to be hoped that this side of the life of the State Society which has been so prominently brought out in this report, will not blind us to the fact that the State Medical Society is, or should be, first of all, a scientific body. But in extenuation for the prominence given to the purely business or executive life of our organization, it must be remembered that the Judicial Council is the materialistic side of the Illinois State Medical Society.

During this year, five new medical organizations have sought to affiliate with this Society. All but one were found to be based upon a constitution and by-laws in harmony with the aims and objects of this organization, and Permanent Secretary Weis was instructed to admit all but the one above mentioned.

In closing, we beg leave to repeat here the words that were used to close our report of last year.

"Our chief duty then would seem to be, to maintain our organization at the highest possible point of efficiency; first, as a scientific body, and as a very close second, a comprehensive business association. Any other combination of aims will not secure for us

the respectful hearing that the interests we represent, require. Only such an organization will arrest the attention of the politician and at the same time maintain in the profession, that standard of dignity, and among the people, that modicum of respect so essential to the highest efficiency."

J. F. Percy, Sec. E. P. Cook, Chrm.

JAMES H. STOWELL: I move that the report of the Judicial Council be accepted.

J. W. PETTIT: I rise to second the motion, and, in doing so, I wish to say that more than a formal acceptance of this report ought to be made by the Society. The report of this Committee shows not only the wisdom of our action in referring medico-political matters to the Committee, but they have been placed in safe hands. I think an amendment ought to be made to the report, namely, that it not only be accepted, but that a Committee be appointed to take such action as may be deemed proper to put in proper shape the recommendation of the Committee for practical adoption. The report is an excellent one. It shows remarkable progress, progress which two years ago I could not have believed could have been made in such a short time. It shows we are working on right lines, and if such work continues in the future, it will make us a power, as we ought to be.

HAROLD N. MOYER: I wish to offer an amendment to Dr. Pettit's motion, but before doing so I want to say, that this report of the Judicial Council simply shows where the profession is standing now. There is no reason why the medical profession can not only be a scientific and social body, but, when it is properly organized, it can become a politically effective body, not on selfish, narrow lines, but on broad lines, for the public and professional good, for what is good for this profession is likewise good for the public. They are fortunately synonymous.

In reference to the report and the appointment of a special committee, we adopted a new Constitution and By-Laws, which means the formation of a representative body from every county in the State, with power to act, virtually separating the business of the Society from the scientific part of this body. I make the suggestion, without making a formal motion, would it not be better to divide the report, and refer that part which deals with political matters to the House of Delegates, which is to be formed next year?

J. W. PETTIT: I accept that suggestion as an amendment.

DANIEL R. BROWER: I do not see why this important matter should be deferred for one year. The motion before us really postpones action upon the whole question for one year, as I understand it. Is not that the case, Mr. President?

THE PRESIDENT: Yes.

DR. BROWER: I am opposed to this matter being postponed. Permit me to say, that the legislature meets the coming fall, and it does not meet again for two years.

DR. PETTIT: The Chairman of the Legislative Committee, Dr. Ingals, objects to the present motion. He is very modest, but I insist that he ought to say something. The matter is very important, and should be acted upon now. If that is Dr. Ingals' judgment, I yield to it.

DR. MOYER: I will withdraw my motion.

JOSEPH ROBBINS: We ought to move in this matter with caution instead of precipitancy. It is a grave question when we convert, even in part, this body into a political machine from work that ought to be done. Good work has been done by the Judicial Council, and more of the same kind ought to be done; but whether the Illinois State Medical Society shall enter the field as an avowed political factor is a question. I hope we shall move in this direction with great caution.

DR. PETTIT: It seems to me there ought to be a separate motion made for the adoption of the report of the Committee, then a subsequent one made with reference to medico-political matters.

I move that we accept the report of the Committee. Seconded and carried.

JOSEPH ROBBINS: I now move that the subject-matter of a medico-political character be referred to a committee of five, to report at this session, the committee to be appointed by the Chair. Seconded and carried.

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

EDITOR—George N. Kreider, A. M., M. D., Springfield.

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Sangamon County—P. L. Taylor, M. D., Springfield.
Schuyler County—A. W. Ball, M. D., Rushville.
Shelby County—A. G. Mizell, M. D., Shelbyville.
Stark County—M. T. Ward, M. D., Toulon.
Stephenson County—R. J. Burns, M. D., Freeport.
St. Clair County—B. Portuondo, M. D., Belleville.
Tazewell County—C. G. Muehlman, M. D., Pekin.
Union County—T. Lee Agnew, M. D., Anna.
Vermilion County—E. E. Clark, M. D., Danville.
Wabash County—J. B. Maxwell, M. D., Mt. Carmel.
Warren County—W. H. Wells, M. D., Monmouth
White County—W. A. Steele, M. D., Carmi.
Will County—Herbert S. Worthley, M. D., Joliet.
Williamson County—G. W. Evans, M. D., Marion.
Winnebago County—S. R. Catlin, M. D., Rockford

DISTRICT SOCIETIES.

Aesculapian—H. McKennan, M. D., Paris.
Brainerd District—J. L. Lowrie, M. D., Lincoln.
Central Illinois—F. J. Eberspach, M. D., Pana.
Galva District—C. W. Hall, M. D., Kewanee.
Fox River Valley—H. J. Gahagan, M. D. Elgin.
Military Tract—C. B. Horrell, M. D., Galesburg.
North Central—Geo. A. Dicus, M. D., Streator.
Southern Illinois—O. B. Ormsby, M. D., Murphysboro.
Tri-County—Leroy Jones, M. D., Hoopeston.

URBAN SOCIETIES, EX CHICAGO.

Alton Medical Society—Geo. E. Wilkinson, M. D., Alton.
Aux Plaines Medical—W. R. Livingston, M.D., Maywood.
Decatur Medical—Lynn M. Barnes, M. D.
East St. Louis—C. W. Lillie, M. D.
Jacksonville Physician's Club—D. W. Reid, M. D.
Peoria Medical—E. M. Eckard, M. D.

CHICAGO SOCIETIES.

Academy of Medicine—J. G. Kiernan, M. D.
Electro-Medical—Richard H. Street, M. D.
German—Karl Doepfner, M. D.
Gynæcological—C. S. Bacon, M. D.,
Medical Society—F. X. Walls, M. D.
Medico-Legal—N. S. Davis, Jr. M. D.
Neurological—C. H. Lodor, M. D.
Ophthalmo and Otological—Brown Pusey, M. D.
Orthopedic—Edwin W. Ryerson, M. D.
Pathological—Geo. H. Weaver, M. D.
Pediatric—Emma M. Moore, M. D.
Physician's Club—L. H. Mettler, M. D.
Laryngological and Climatological—J. E. Rhodes, M. D.
Rush College—J. B. Herrick, M. D.
Society of Internal Medicine—Robt. B. Preble, M. D.
Southwestern—Thos. J. McGonagle, M. D.
West—Gustavus M. Blech, M. D.

All communications should be addressed to the Editor, 522 Capitol Ave., Springfield, Illinois.
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OCTOBER 1902.

THE STATE SOCIETY AND MEDICAL LEGISLATION.

The State Medical Society at the Peoria meeting last year committed itself unequivocally to the problem of securing substantial changes and betterments in the act regulating the practice of medicine in Illinois. It is undoubtedly true and the better elements of the profession recognize the fact that Illinois once the leader in all that tends to the uplifting of professional standards has fallen behind in the procession. The present law has been found fatally defective by the courts. True the conditions are not quite so bad as they appeared last year, but still there is no question of the necessity of a new act. In this great undertaking there must be a practical unanimity among our members to begin with. Then the provisions of the act finally decided on, must be so just and reasonable that no antagonism will be excited among the honorable members of

other schools and sects. They should and probably will be equally interested with us in securing more perfect legislation.

On the other hand there will be antagonistic elements at work, whose influence should not be underestimated. In any battle it is a safe plan not to underestimate the strength of the enemy. A certain magnetic healer of Ottawa has addressed letters to his fellows throughout the state, calling on them to co-operate with him in having the present law repealed. The venerable T. A. Bland, chief promoter of the National Medical Union is still on earth. He has an abundance of time and apparently a quantity of money to push his canvas in advocacy of a condition like to that which prevailed prior to the civil war. That is free trade in practice and the giving of diplomas. The Christian Scientists and Dowie, the osteopathists and the anti-vaccinationists will be on hand with their cry of persecution. Altogether the Society and its committee will have work to do. They will need money with which to accomplish this herculean task. We trust our members will not fail when it comes to active labor and liberal contributions. Let us all unite to secure for Illinois the best act regulating the practice of medicine to be found on any statute book. We can secure it if we will.

CHRONIC SEROSITIS.

In the lymphatic channels, obstruction takes place easily and the propagation of morbid processes in a direction which is the reverse of that ordinarily taken by the fluids circulating in them, is known to occur frequently in a number of diseases. The disposition of the lymph channels on each side of the diaphragm is such that affections on either side are often manifest, to some degree, upon the opposite side also. In the lymphatic glands of the anterior mediastinum currents of lymph enter from both the pleurae and the upper surface of the liver; into the glands about the oesophagus lymph is received from the surface of the left hepatic lobe.

By these routes a variety of diseases are subject to transportation from one serous cavity to another. Gynecologists have long been familiar with the incidence of pleuritis on the right side in cases of peritonitis, especially puerperal peritonitis. Tubercles on the surface of the liver and spleen and adhesions between these viscera and the diaphragm are very common in chronic tuberculosis of the pleura; carcinoma, also, may extend along the lymph channels, through the diaphragm.

In exceptional cases of combined and chronic inflammation of the pleura, pericardium and peritoneum—in other words, of chronic serositis—the viscera contained in these sacs are firmly joined to their enveloping membranes and to the diaphragm. Usually the adhesions are more marked upon one side of the diaphragm than the other and the corresponding serosa is the seat of the greatest thickening; of the viscera in the peritoneum, as a rule, only those just below the diaphragm are involved. Thus with an adhesive pericarditis of long standing which leads to obliteration of the cavity and which is often the seat of an extensive deposit of lime salts, there may develop chronic pleuritis, indurative mediastinitis, perisplenitis and perihepatitis. Likewise with chronic peritonitis situated just below the diaphragm, the pericardium and pleurae may be found—in necropsies—in some degree, the seat of adhesions.

Although well marked instances of chronic serositis are rare, they compensate in interesting features for their scarcity. Their proper clinical interpretation is always dif-

ficult and the unravelling of the chain of events may be at times, impossible even in post-mortem examinations on account of the long duration of the process, which may have been a matter of years and by reason of the locking together of the contiguous supra and sub--phrenic structures with firm thick layers of scar tissue. The "frosted" or "icing" appearance of the liver, in these cases led Curschmann to apply the name "Zuckergussleber" to the chronic productive perihepatitis. The unfortunate title "Pericarditic Pseudo-Cirrhosis" given by Pick to a group of symptoms due to adhesive pericarditis and impeded heart action has led to considerable controversy.

In a recent monograph upon this subject Nicholls (1) has undertaken to disentangle some of the questions at issue. In latent adhesive pericarditis, there often occurs a perihepatitis which Pick claimed was a result of the interference with the circulation and he even attempted to account for the "Zuckergussleber" of Curschmann in the same manner.

There are very good reasons for believing that the explanation offered by Pick is not the true one, and the consideration by Nicholls of this phase of the subject is but an echo to the conclusions of others who have discussed it and reported cases (Rumpf, Siegert, Schmalz and Weber). The most reasonable view of the etiology, is that from an acute serositis beginning upon one side of the diaphragm, the adjacent serous membranes become affected and the conditions left by partial or more perfect healing of the acute process produce the morbid changes under discussion. The chronic productive perihepatitis—"Zuckergussleber"—may be primarily subphrenic or it may result from the regional invasion of an inflammation primarily located, as regards the serous membranes, in the pericardium. It is shown by Nicholls that the order of frequency with which these adjacent serous membranes are conjointly affected, is the same for the chronic conditions as is known to obtain in acute multiple serositis. In the majority of cases that become chronic, the history points to primary involvement of the peritoneum, with extension to the pleura and pericardium; in some instances the primary lesions have been in the thorax from which extension to the peritoneum has produced a chronic hyperplastic perihepatitis or perisplenitis. The age at which these cases of chronic serositis have been encountered is in accord with the healing of acute inflammations of the various serosae—acute polyorromenitis—that are known prevail between the ages of 16 and 30 years. The characteristics of the ascitic fluid, so far as it has been examined, are those of an inflammatory exudate and the membrane that forms around the viscera, a layer that is sometimes as thick as the thumb and of a cartilagenous consistency, is clearly an inflammatory product.

Nicholls reports two new cases of this order; in one the onset of the trouble seems to have been a round ulcer of the duodenum; in the other an unresolved pneumonia on the right side was accompanied by "zuckerguss" spleen. Packard (2) has observed one case resembling the latter. The instance recorded by Schmalz and Weber is extremely interesting in showing how the different serosae may be successively involved; an appendicitis and perityphlitis led to chronic peritonitis and "Zuckergussleber" and at the necropsy there were found in addition,

(1.) A. G. Nicholls, a somewhat rare form of chronic inflammation of the serous membranes (Multiple Progressive Hyaloserositis).
Studies from the royal Victoria Hospital, Montreal. 1902, I. No. 3, (April).

(2.) F. R. Packard, extreme cirrhosis of the liver with ascites and perisplenitis.
Proceedings of the Philadelphia Pathological Society, 1900.

chronic adhesive pleuritis on the left side and an *acute* fibrinous pericarditis. Herrick (3) has lately reported a case in which all three serous membranes were involved, the process starting evidently in the pleura and the pericardial exudate being extensively calcified.

It is apparent that there are two chief points upon which the well-known work of Pick is open to criticism. One of these, already mentioned, was in attributing the perihepatitis in these cases to a disturbance of the circulation; the other, the use of the term pseudo-cirrhosis, for in many of these cases a cirrhosis has been found. Wells has pointed out that the liver as a rule, is cirrhotic in cases of calcified pericardium. However as Herrick has well stated Pick is entitled to great credit since interest in this subject can be said to have taken origin from his original publication in 1896.

(3.) J. B. Herrick, Pericarditic Pseudo-Cirrhosis of the Liver. Trans. Path. Soc. (Chicago), 1902, V. 71; also Chic. Med. Recorder, 1902, XXIII, 177.

AMERICAN MEDICAL JOURNALS.

The reception given to our editorial discussion of American Medical Journals in the August issue has been most encouraging. Several contemporaries have taken up the matter and while all do not agree with us in all particulars an interest has been aroused on the subject which may have an important influence in the future.

* * * * *

We are pleased to know that the editor of a certain publication at once dispatched an agent to ascertain the sentiment of the profession of Illinois towards his journal. This agent rendered us the highest praise when he stated that the Illinois Medical Journal was the worst enemy of the journal in question. We have every reason to believe that the agent has found a great many physicians in this State who hold the sentiments we expressed editorially and that the better class of men everywhere has no sympathy with any publication which antagonizes the use of antitoxin and vaccine and which seeks to create a sentiment against vivisection when employed for scientific purposes. Such a publication may have circulation for a time among the half educated and prejudiced, but the day is rapidly approaching when a medical body properly educated to the last man will force the discontinuance of the publication of all such sentiments.

* * * * *

Our friend, EditorAlfred S. Burdick of the Medical Standard takes up this subject in his issue of September 15. He discusses the subject statistically along the same lines as our editorial and in addition gives quite a historical review and furnishes a *fac simile* of the title page of the first Boston Medical and Surgical Journal, dating from 1828. He discusses the subject *in extenso* in a very interesting manner and finds, in our editorial, language which he thinks would seem to indicate our desire that all journals not representing societies should be abolished. Whatever our language we certainly had no intention of decapitating all the able editors or sweeping away all the independent journals. No doubt independent journals will continue to exist and no doubt their character will be improved by the high standard set them by those journals directly representing and accountable to the professional organizations. We placed the Medical Standard among the high class journals and are therefore somewhat surprised that its editor appears to give a quasi endorsement to the so-called "popular" ones having the largest (they allege) circulation, which devote most space to details of diagnosis and treatment which are disdained by the more "scientific." Our observation is that these journals utterly fail as teachers of sound

doctrine and leaders of truthful scientific thought. Their influence is given to the contradiction of modern scientific ideas almost universally approved and to the exploitation of remedies in which the editor has some sort of an interest. Representatives of a scientific and honorable profession should, we think, ever and always condemn such journalistic tendencies. Their present popularity proves nothing. It is all the more reason for deploring the misuse of professional publications. However, we quite agree with Dr. Burdick that no journal unless edited with great care can maintain a standing in this day of the survival of the fittest.

The language of the Medical Standard is as follows:

An interesting tendency is found in the recent establishment of medical journals by various state medical societies, to replace the annual volume of "Proceedings." These journals are, in the main, the result of the movement for reorganization and unification with local societies, which they are expected to facilitate. In a recent editorial the Illinois Medical Journal predicts "that medical journalism in the near future will be altogether in their hands." This savors a little of philistinism—of a get-off-the-earth pronunciamento by those who assume to dictate an ethical conception vouch-safed them alone, and to know what is best for journal readers whether they like it or not. The Standard heartily approves of any proper effort to organize the profession, but the mere printing of scientific transactions and of papers of widely varying merit and readableness, such as are read at our annual gatherings, does not constitute journalism, even though every paper should contain matter of the utmost intrinsic value. It is in the selection of articles to meet the tastes of a majority of possible readers—the presentation of the new, the practical and the valuable in the most attractive and readable form that real journalism consists. Artificial support may maintain the official organ, but will not popularize it. To monopolize medical journalism, these journals must enter the open field of competition and prove their claim, not only to superiority, but their right to popularity. In this connection it may not be improper to point out that the journals having the largest circulation are the so-called "popular" ones, which devote the most space to details of diagnosis and treatment which are disdained by the more "scientific."

* * * * *

Editor Koenig of the Pennsylvania Medical Journal considers this subject editorially in his September issue from which we make the following extracts:

When it was decided at Pittsburg, in June, 1897, to publish the transactions of the Pennsylvania Society in journal form, some doubt was expressed by various conservative members as to the wisdom of the course. The experience of five years, however, we believe to have amply justified that course in every respect, if the steady growth of the membership and the interest in county societies may be accepted as evidence.

The next Society after that of Pennsylvania to publish its transactions in journal form was that of Illinois. Through the influence of that journal the medical profession of Illinois has grown into one organization of 3,650, from a nucleus of 450. The journal of that association is published on the same ethical principles that govern our journal. Its ethical influence for good cannot be overestimated.

The fact that state medical journals can exist without the aid of the quack medicine manufacturer being now fully established, may we not hope that the board of trustees of the American Medical Association may, in the near future, see the wisdom of purging the advertising pages of its journal of all advertisements that offend the spirit of the Code of Ethics.

During the past year no sample copies of this journal were sent out, except on request, and these even have not all been granted, for it is evident from long experience in this line, that there are not a few physicians who, instead of subscribing to a medical journal, invest the money in postal cards, by means of which they hope to obtain larger returns in the form of reading matter—though of a varied nature—than would be possible were they to expend the same amount of money in payment of the subscription of one journal.

In keeping with the rules adopted at the time of the establishment of the Pennsylvania Journal, the advertising pages have been kept absolutely free from all advertisements of proprietary or trade-marked medicines.

* * * * *

In our previous articles we neglected to mention another official journal of a Society, the Journal of the Association of Military Surgeons of the United States, edited by Major Pilcher of Carlisle, Pa. This has recently become a monthly publication and is conducted on strictly ethical lines.

* * * * *

It appears that still another Society has recently taken up the journal idea. The Medical Book News is our authority for the statement that the Washington Medical Annals is the title of a new medical journal,

the official organ of the Medical Society of the District of Columbia.

* * * * *

Up to the present time the list of journals, official organs of societies, comprises:

(1.) The Journal of the A. M. A.

(2.) Six state societies counting the District of Columbia as a state.

(3.) Four county societies.

(4.) The Military Surgeons of the United States.

(5.) The American Academy of Medicine.

In all thirteen in number.

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The Journal of the Michigan State Medical Society made its appearance September first. Owing to the crowded condition of our columns we are obliged to postpone a review of it until our next issue.

* * * * *

The matter of American Medical Journals is of such importance that we may take up other phases of the subject in our future issues.

New Incorporations.

The Secretary of State at Springfield has licensed the following corporations:

Whiteford Chemical company, Chicago; capital, $25,000; to manufacture and deal in druggists' and physicians' supplies. Incorporators, E. D. McMillan, Whiteford E. J. McMillan, and Walter S. Lawson.

Grove Home for Convalescents, Evanston; philanthropic; incorporators. Edwin F. Marsh, Charles Norwood Henderson, and Augustus S. Peabody.

The Hermit Remedy company, Chicago; capital, $10,000; manufacturing proprietary medicine; incorporators: Mac C. Allen, Edward J. Brundage, and Frank Little.

Local Societies.

The Grundy County Medical Society met September —, 1902, in Mazon, Ill., as the guest of O. P. Bennett and held a very enthusiastic meeting. M. L. Harris, president of the State Society and W. S. Christopher of Chicago were the guests of the evening and at the close of an excellent banquet presented subjects pertaining to their special lines of work.

The meeting broke up at a late hour and all agreed that this was one of the most successful and profitable in the history of the Society.

H. M. Ferguson,
Official Reporter.

The Morgan County Medical Society met in regular session on Thursday, August 14, 1902, at its rooms in the Hockenhull building.

In the absence of both the president and vice-president Frank P. Norbury acted as chairman.

Members present—Drs. Cole, Norbury, Pitner and Wakely.

The minutes of the July meeting were approved as printed.

The president announced the program for September 11, 1902:

Cancer and its Treatment—J. A. Day and J. W. Hairgrove. Leaders—George Edwin Baxter, Bowe and Milligan.

R. H. Garm, of Beardstown, was elected to membership.

A communication from E. W. Weis, secretary of the Illinois State Medical Society, was received asking that "a blank application to become a branch of the Illinois State Medical Society enclosed be filled out and returned" to the secretary of the Illinois State Medical Society. The secretary of this Society reports that such action was taken, said application being signed by the president and secretary of this Society.

Letters were also received from George Edwin Baxter, now of Chicago, Ill., and W. W. Crane, of Sinclair, Ill.

W. C. Cole read a paper on **Malarial Fever.**

The discussion was participated in by all present.

On motion of the secretary, seconded by Dr. Pitner, the following resolution was adopted:

Resolved, That the adoption of the form of constitution and by-laws for County Societies reported by a committee of the American Medical Association and printed in full in the Journal of the American Medical Association for August 9, 1902, subject to amendment be considered at the next regular meeting of this Society on September 11, 1902.

The motion prevailed.

On motion the Society adjourned.

T. A. Wakely, Official Reporter.

The Decatur Medical Society met Aug. 29, 1902, S. J. Bumstead presiding. Dr. Bumstead invited the Society to hold its September meeting at his residence, an invitation that was unanimously accepted.

M. V. Lonergan read a paper on **"Intestinal Diseases of Children in Summer Time."** This was followed by general discussion.

W. C. Wood talked of different things in the news line in current medical literature.

At the next meeting F. M. Anderson will

have a paper on **"Cerebral Localization,"** and the discussion will be led by E. A. Morgan and Lynn M. Barnes.

The Physicians' Club of Chicago held its opening meeting at De Jonghe's, Monday, September 29, 1902.

Chairman: Frank Billings.

Program—Subject: **"The Present Epidemic of Typhoid Fever in Chicago."**

Speakers:

Edwin O. Jordan, Associate Professor of Bacteriology, University of Chicago.

John H. Long, Professor of Chemistry, Northwestern University Medical School.

Mr. E. G. Cooley, Superintendent of Schools, Chicago.

Adolph Gehrmann, Formerly Director of Bacteriological Laboratory, Board of Health, Chicago.

The club has issued a tastily prepared pamphlet giving the constitution and by-laws, program of each meeting since the club was founded and a list of members and officers.

The following gentlemen have applied for membership in the club: Ludwig S. Simon, 4254 Vincennes avenue; E. A. Fischkin, 4809 Prairie avenue; Alfred C. Croftan, 6026 Monroe avenue.

A report of the meetings of the club will appear in the Journal of the Illinois State Medical Society. This meeting will be reported in full in the next Journal.

L. Harrison Mettler,
Official Reporter.

The Chicago Gynecological Society held its regular meeting Sept. 19, 1902, Vice-President J. Hoag in the chair.

Dr. Dodds presented specimens of **fibroid tumor of the ovary.**

J. B. DeLee exhibited **Bossi's Uterine Dilator for use in dilating the cervix in labor.** The value of the instrument was questioned by Drs. Kolischer, Webster and Hoag.

Herbert Stowe reported a case of **rupture of the umbilical vein after injury** to the mother by the kick of a horse. The cord was wound twice around the neck of the foetus. Dr. Stowe explained the rupture of the vessel by supposing that the cord lay over the back of the child which was in contact with the abdomen of the mother. The horse's foot came over this region and produced the tear in the probably diseased blood vessel. The fetus was syphilitic.

Dr. Stowe also reported another case of **rupture of the cord due** to the precipitate birth of the child which fell on the floor. In connection with these cases he discussed the subject of the strength of the cord and reported observations made by himself. The paper was discussed by Drs. DeLee, Bacon and Webster. Dr. DeLee reported an additional case. Dr. Bacon doubted the explanation of the rupture of the vein in the first case and held that spontaneous rupture of syphylitic vessels was more probable. Dr. Webster called attention to the different kinds and seats of rupture of the cord and held that the usual investigations concerning its strength were of no practical value.

E. M. Sutton of Peoria reported a case of **cancer of the vagina** and described his operation for its removal. The case was complicated with a stricture of the rectum extending up about 8 inches from the anus, which necessitated the removal of the rectum. The operation began with the removal of the sacrum below the second sacral vertebra. The vagina, cervix and rectum were then removed and the end of the rectum fastened to the skin. The patient made a good recovery. Dr. Evans reported the pathological findings and discussed the relation of the fibrous stricture to the epithelial cancer of the vagina. Drs. Kolischer and Ries criticised the operation holding that the sacral route was not necessary.

Dr. Kolischer read a paper on the **condition of the bladder after hysteropexy.**

C. S. Bacon, Official Reporter.

The Tri-County Medical Society—(Vermilion, Iroquois and Ford Counties,) held its annual summer meeting in Watseka, June 3d. There was an average attendance and a fine spirit throughout both the sessions. A. M. Wylie of Paxton, president of the Society being in Europe, the chairmanship fell to Vice-President Frank M. Mason, of Rossville.

The morning session opened at 10:30 and was wholly devoted to the routine business of the Society, hearing reports of officers, committees, etc., the election of new members, and the election of officers for the coming year.

Dr. Mason gave a fine opening address—J. A. Miller of Loda, Robert E. McKenzie of Gilmar and J. S. Near of Watseka, were all made members.

The books of the secretary-treasurer were destroyed by fire last December, but he reported briefly from memory.

Officers chosen for the coming year were: President, Frank M. Mason of Rossville; Vice-President, Carey Culbertson of Piper City; Secretary-Treasurer, L. Jones of Hoopeston; Board of Censors, Mary B. Newell of Onarga, T. N. Bone of Loda and D. W. Miller of Gilmar.

Hoopeston asked for the winter meeting next December and it was granted.

The meeting then adjourned for dinner—the Watseka Doctors had prepared a genuine spread at the Williams House—and it was fully appreciated by the visiting Doctors.

The afternoon session began at 2:30 and was devoted to the reading and discussion of papers, reports of cases, etc.

Mrs. Mary B. Newell of Onarga read a fine paper on **The Ills and Treatment Peculiar to Children.**

Leroy Jones of Hoopeston gave a paper on **Auto-intoxication.** Carey Culbertson of Piper City read a paper on **The Surgical Teachings of Obstetrics.** E. E. Clark of Danville read his Quincy (Illinois State Medical Society) paper on **Dacryocystitis.** B. L. Euans of Watseka gave a verbal report of the Quincy meeting. Cases of violent bleeding were reported by Ethan Allen of Sheldon, and O. O. Hall of Milford. The discussions were able and instructive. Having disposed of the purely business and routine work of the Society in the morning session, left the afternoon all for the papers,

reported cases, and discussions. The plan was new to our Society, but we will use it again.

The Society has never had a better meeting than this one, but we expect a good one next December at Hoopeston.

Leroy Jones, Official Reporter.

The Adams County Medical Society held a very pleasant meeting at Camp Point on Sept. 8, 1902. There were about 35 in attendance. It was both a scientific and social meeting, much enjoyed by all present. An address of welcome was given by S. Henry of Camp Point. W. Gilliland, president of the Society, read a paper of much interest to the profession entitled **Every Member's Obligation.**

J. M. Grimes responded with a few remarks on the uselessness of attempting to prosecute the traveling medical vender as he has probably engaged in other fields when case comes to trial.

R. Christie, Jr., and J. Robbins, also made a few appropriate remarks. H. Hatch spoke of the laudable position held by the physician of today and gave due credit to lately deceased Rudolph Virchow.

A recess was then taken during which time the gentlemen indulged in various athletic sports.

After a delightful supper and the thanks of the Society extended to the ladies of Camp Point for their hospitality the members departed for their various destinations.

Sarah Vasen, Secretary pro tem.

The Sangamon County Medical Society met in regular session, Monday evening, September 8th, at eight o'clock in the court house, L. C. Taylor president, in the chair. The minutes of the May meeting having been mislaid were not read. The minutes of the special meeting in regard to Dr. Fisher's death were read and approved. Bills of A. C. Brown, Phillips Bros., Edw. Hartman Co., and secretary were read and ordered paid. The following resolution was read by G. N. Kreider:

Whereas, the distinguished scientist Prof. Rudolph Virchow was called from the scene of his earthly labors on Saturday the 6th of September, 1902. We the members of the Sangamon County Medical Society of the State of Illinois in regular meeting assembled, take this occasion to put on record our appreciation of this great man whose genius has marked an epoch in the science of medicine, whose devotion to truth and freedom have been of infinite benefit to his countrymen and whose moral character during a long and busy life has been above reproach.

Resolved, that a copy of this minute be published in the Illinois Medical Journal, the Journal of the American Medical Association and a copy be sent to his son, Prof. Hans Virchow.

Motion was made and carried to change our by-laws to conform with that of State Society in regard to admitting other than graduates of regular schools as members of our Society. The application of W. B. Pickrell for membership, with letter was read and referred to the executive committee.

The announcement of Prof. William Osler's address on "William Beaumont, the First and Greatest American Physiologist," under the auspices of the St. Louis Medical Society of Missouri was read.

Walter Ryan gave a short talk on two cases of stab wounds where arteries were sutured, a synopsis of which follows: Case No. 1. A young colored man stabbed just below the clavicle with pocket knife, he placed his finger in the wound and kept it there until they reached the hospital; after cutting down under the clavicle the subclavian artery was found to be punctured, the Lembert suture was used and complete recovery followed. Case No. 2. An Italian stabbed by a colored man, the axillary artery being punctured, a pocket handkerchief being placed in the axilla with the arm held firmly against the body to control hemorrhage till they reached the hospital where Lembert sutures were used with complete recovery.

Dr. Ryan also presented several specimens of gall stones, stating that all cases of gall stones did not have jaundice accompanying them. G. N. Kreider reported a case in which a boy was shot in the chest with a 22 calibre rifle, the ball ranging upward. According to latest authority such wounds should be left alone. In this case, the chest was tied down with adhesive strips to cause abdominal breathing, thereby lessening the liability of blood collecting in the pleural cavity and causing pressure on the vital organs. Dr. Kreider also reported a case which he had recently seen in Roosevelt Hospital, New York City, in which Prof. Weir had found a **function for the appendix vermiformis.** The patient suffered with a chronic colitis for which it was proposed to make an opening in the bowel for the introduction of remedies directly to the diseased part. On opening the abdomen in the cecal region the healthy appendix popped into view and Prof. Weir took the hint of using this as a channel instead of sewing the cecum to the abdominal wall as he had intended. He accordingly brought it into the wound clipped off the end and afterwards injected remedies into the colon through it. The man made a good recovery. There being no further business the Society adjourned.

Percy Louis Taylor,
Official Reporter.

Stark County Medical Society.

Meets semi-annually in Wyoming, Second Tuesday of April and October.

Officers.

President, A. M. Pierce.....Wyoming
Vice-President, L. S. Hopkins.....Bradford
Secretary and Treasurer, M. T. Ward....Toulon

Members.

Boardman, J. G., Bradford.
Church, E. E., Lafayette.
Garrison, Wm. L., West Jersey.
Hall, W. T., Toulon.
Holgate, Jas., Wyoming.
Hopkins, L. S., Bradford.

Johnson, A. L., Castleton.
Parsons, Arthur, Elmira.
Pierce, A. M., Wyoming.
*Ward, M. T., Toulon.
Wead, J. S., Wyoming.

Ogle County Medical Society.

Meets First Wednesday in January and July.

Officers.

President, G. M. McKenney.....Oregon
Vice-President, W. W. Barnes.....Polo
Secretary, H. A. Mix.....Oregon
Treasurer, L. S. Hall.....Oregon

Members.

Allen, E. P., DeKalb.
Balsbough, G. S., Forreston.
Barnes, W. W., Polo.
Carlton, W., Rochelle.
Covell, Jno. D., Forreston.
Cummings, A. F., Rockford.
Hall, L. S., Oregon.
Harvey, T., Stillman Valley.
*Kretsinger, Josiah T., Leaf River.
Mendenhall, A. L., Kings.
Mix, H. A., Oregon.
McCosh, Geo. B., Mt. Morris.
McKenney, G. M., Oregon.
Normell, L. C., Oregon.
Pankhurst, Jas., Grand Detour.
Snyder, J. B., Polo.
Speaker, W. T., Mt. Morris.
Vanvoorhis, J. F., Creston.
Woodcock, Albert J., Byron.

Grundy County Medical Society.

Officers.

President, O. P. Bennett.....Mazon
Vice-President, Jno. E. Brock.....Coal City
Secretary, Harry M. Ferguson.....Morris
Treasurer, Wm. E. Walsh.....Morris

Members.

Bennett, O. Prescott, Mazon.
Brinkerhoff, J. J., Minooka.
†*Brock, Jno. E., Coal City.
*Ferguson, Harry M., Morris.
Hanawalt, C. G., Lisbon.
Nelson, Gerhard T., Morris.
Palmer, A. E., Morris.
Palmer, F. A., Gardner.
Pickles, Wm. H., Coal City.
*Walsh, Wm. E., Morris.

Bond County Medical Society.

Officers.

President, E. P. Poindexter.....Greenville
Vice-President, J. A. Warren.....Greenville
Secretary, W. T. Easley.....Greenville
Treasurer, W. G. Barnes.....Mulberry Grove

Members.

Barnes, W. C., Mulberry Grove.
Black, J. A., Pleasant Mound.
Cary, A. B., Donnellson.
Cary, J. B., Donnellson.
Chittum, J. D., Sorento.
Coop, Bedford F., Greenville.
Duncan, W. W., Sorento.
Early, H. C., Reno.
†*Easley, Wm. T., Greenville.
†Glasgow, E. A., Mulberry Grove.
Gordon, C. C., Greenville.
Gordon, Ed., Old Ripley.
*Gordon, J. H., Pocahontas.
Hoagland, J. W., Smithboro.
Poindexter, E. P., Greenville.
Schmidt, H., Beaver Creek.
Vaughn, S. A., Smithboro.
Warren, J. A., Greenville.
Wilkins, David R., Pocahontas.
Wilkins, H. E., Sorento.

Tazewell County Medical Society.

Officers.

President, W. H. Conibear.....Morton
Secretary-Treasurer, C. G. Muehlman....Pekin

Censors.

J. M. Cody.....Tremont
J. I. Skelly.....Pekin
R. H. Keyes.....Hopedale

Members.

*Beilstein, F. W., Morton.
*Cody, J. M., Tremont.
*Conibear, W. H., Morton.
*Keyes, Robt. H., Hopedale.
Muehlman, C. G., Pekin.
*Niergarth, Wm., Pekin.
†*Skelly, J. I., Pekin.
Weimer, E. H., Pekin.
*Yoder, H. L., Morton.

Greene County Medical Society.

Meets second Friday in September, December and June.

Officers.

President, F. A. Clement.....Greenfield
1st Vice-President, H. W. Hand.....White Hall
2d Vice-President, J. A. Gravens..Wrightsville
Secretary-Treasurer, H. A. Chapin...Whitehall

Members.

Adams, J. W., Walkerville.
Bowman, A., Whitehall.
Burns, Geo. W., Whitehall.
Burns, Howard, Carrollton.
†*Chapin, H. A., Whitehall.
†*Chapman, H. W., Whitehall.
*Clement, F. A., Greenfield.
Converse, H., Greenfield.
Coon, J. T., Carrollton.
Cravens, J. A., Wrightsville.
Foreman, A. W., Whitehall.
Gooch, E. S., Carrollton.
Hall, T. H., Carrollton.
*Hand, H. W., Whitehall.
Hayes, J. B., Carrollton.
*Higbee, E. H., Roodhouse.
Jouett, E. E., Woody.
*Redwine, J. W., Whitehall.
†*Ross, G. W., Carrollton.
Squin, Jas., Carrollton.
Waters, J. E., Athensville.

Randolph County Medical Society.

Officers.

President, W. R. McKenzie.....Chester
Vice-President, A. T. Telford.....Menard
Secretary and Treasurer, H. C. Adderly.Chester

Members.

*Adderly, H. C., Chester.
Beattie, J. G., Preston.
*Dinges, H. A., Red Bud.
Gillen, P. J., Prairie du Rocher.
Gordon, H. A., Chester.
Hill, E. L., Percy.

Isom, W. C., Rockwood.
James, W. A., Chester.
Meyer, F. J., Evansville.
McKee, H. T., Sparta.
*McKenzie, W. R., Chester.
Pantier, N. B., Evansville.
Robertson, J. W., Coulterville.
†*Robertson, Thos., Steelsville.
*Smith, C. G., Red Bud.
Songer, W. E., Menard.
Steele, A. D., Chester.
*Telford, A. T., Menard.

Richland County Medical Society.
Meets last Saturday of each month.
Officers.

President, A. L. Ziliak.....Olney
Vice-President, E. Rowland.....Olney
Secretary, M. E. Poland.....Calhoun
Treasurer, J. W. Spain.....Olney

Members.

Bower, D. W., Calhoun.
Foster, M. D., Olney.
Fritschle, W. E., Olney.
Martin, C. E., Claremont.
Poland, M. E., Calhoun.
Rowland, E., Olney.
Soliss, J. P., Olney.
Spain, J. W., Olney.
Thompson, W. A., Olney.
Watkins, H. T., Olney.
*Weber, G. T., Olney.
Ziliak, A. L., Olney.

The Christian County Medical Society was organized at a meeting held in the city hall, Taylorville, Ill., September 2, 1902. The following physicians were present:

J. N. Nelms, Taylorville.
W. K. Wright, Taylorville.
M. M. Hill, Taylorville.
F. E. North, Taylorville.
Dr. Dixon, Taylorville.
T. M. Johns, Taylorville.
F. R. Morton, Taylorville.
J. F. Miller, Palmer.
J. P. Simpson, Palmer.
M. W. Staples, Grove City.
C. W. Coe, Stonington.
W. T. Short, Stonington.
W. T. Bridges, Stonington.
W. J. Saling, Stonington.

It was decided to adopt the constitution and by-laws recommended by the committee of the American Medical Association for the use of county societies modified to meet the wants of this Society.

J. N. Nelms was elected president; W. T. Bridges was elected secretary-treasurer.

W. T. Bridges, Official Reporter.

The Aux Plaines Medical Society.
List of Members.

W. F. Scott, Melrose Park.
W. R. Livingston, Maywood.
H. W. Merrill, Maywood.
V. N. Swan, Maywood.
Geo. C. Shockey, Melrose Park.
Fred H. Bates, Elmhurst.
Wm. T. Pickard, Maywood.
Rodney Hunt, Oak Park.
Arthur Loewy, Oak Park.
A. W. Rosenberry, Oak Park.
Chas. W. Oleson, Lombard.
O. K. Handke, Harlem, Oak Park P. O.
H. E. Dodge, Franklin Park.
C. E. Hemingway, Oak Park.
J. H. McDonald, 1384 W. Congress, Chicago.
E. F. Knapp, River Forest, Oak Park P. O.
G. B. Tope, Glen Ellyn.
F. J. T. Fischer, Elmhurst.
H. W. Vanderhoof, Wheaton.
C. Shorman, 212 Baird ave., Austin.
Henry F. Langhorst, Elmhurst.
Irving Peak, Oak Park.
Joseph H. Hilton, Maywood.
Ellis Kirk Kerr, 214 N. Elmwood ave., Oak Park.

W. R. Livingston, Official Reporter.

The McLean County Medical Society met after the hot weather vacation of two months, in the city hall, September 4th, at 7:30 P. M. Eliza J. Hyndman read the paper of the evening reporting a case and reviewing the literature on **Tetany.** Her case was a child about one year old who had a mechanical obstruction of the bowels near the sigmoid flexure. The Tetany was relieved as soon as the bowels were thoroughly cleaned out. The disease being an uncommon one, but few of the members present had ever recognized a case. Dr. Sloan of Danvers had seen two cases, one that he considered very serious, after consultation was given one-half grain of codeine every three hours for two days, the child recovering. The Society has issued a neat pamphlet giving the program for each meeting during the year and containing a list of the officers and names of members corrected to date. Members present: J. W. Smith, J. L. Yolton, Kaesar, Hyndman, Bath, Nusbaum, C. M. Noble, Cox, Hull, R. G. Yolton, Sloan, Fox, Chapin and Deedy.

E. S. Reedy, Official Reporter.

Officers 1902-1903.

J. Whitefield Smith.....President
Lee Smith.....Vice-President
E. S. Reedy.....Secretary and Treasurer

Censors.

E. Mammen, Geo. R. Smith,
J. P. K. Hawks.

List of Members.
September 1, 1902.

C. Ayling, Gridley.
A. A. Absher, Sibley.
A. C. Albright, Sibley.
C. H. Beadles, Jacksonville.
J. Y. Bonnett, Bloomington.
T. W. Bath, Bloomington.
L. A. Burr, Bloomington.
Samuel Bane, Ellsworth.
J. H. Banks, Atlanta.
S. L. Chapin, Saybrook.
H. S. Chapin, Holder.
Chas. E. Chapin, Bloomington.
E. G. Covington, Bloomington.
C. R. Carr, Bloomington.
A. L. Chapman, Carlock.
J. E. Covey, Lexington.
J. M. Cody, Tremont.
B. F. Cox, Farmer City.
S. L. Crocker, Weston.

D. T. Douglass, Colfax.
A. M. Earel, Jacksonville.
J. M. Elliot, Peoria.
C. S. Elder, Chenoa.
H. W. Elder, Bloomington.
G. D. Elder, Bloomington.
J. W. Fulwiler, Bloomington.
J. A. Fenelon, Bloomington.
A. L. Fox, Bloomington.
W. E. Guthrie, Bloomington.
F. H. Godfrey, Bloomington.
R. Earl Gordon, El Paso.
John Goodheart, Lexington.
William Hill, Bloomington.
M. D. Hull, Bloomington.
O. E. Haering, Bloomington.
A. F. Henton, Bloomington.
J. K. P. Hawks, Bloomington.
Eliza J. Hyndman, Bloomington.
John Haig, LeRoy.
W. L. Horn, Arrowsmith.
C. E. Heyward, Cropsey.
E. P. G. Holderness, Chenoa.
N. F. Jordan, Bloomington.
F. O. Jackman, Bloomington.
A. F. Kaeser, Bloomington.
T. W. Keys, LeRoy.
L. S. Keith, Towanda.
Homer A. Kell, Danvers.
J. E. Kunkler, Bloomington.
J. Little, Bloomington.
E. Mammen, Bloomington.
T. R. Mullen, Bloomington.
A. W. Meyer, Bloomington.
Nelson McCormick, Normal.
F. C. McCormick, Normal.
F. J. Mittan, Colfax.
J. P. Noble, McLean.
C. M. Noble, Bloomington.
D. H. Nusbaum, Bloomington.
C. T. Orner, Bloomington.
F. J. Parkhurst, Danvers.
A. R. Penniman, Stanford.
C. R. Parke, Bloomington.
Wm. Patch, Whitefield.
E. S. Reedy, Bloomington.
W. H. Reedy, Towanda.
C. B. Roberts, Towanda.
A. E. Rogers, Bloomington.
Frank Stubbiefield, El Paso.
J. A. Smith, El Paso.
L. E. Speer, Shirley.
C. C. Sater, Atlanta.
L. A. Skaggs, Ellsworth.
W. R. Shinn, Chenoa.
Lee Smith, Bloomington.
G. R. Smith, Bloomington.
J. Whitefield Smith, Bloomington.
E. E. Sargent, LeRoy.
E. P. Sloan, Danvers.
J. A. Tuthill, Danvers.
E. K. M. Taylor, Danvers.
J. B. Taylor, Bloomington.
F. C. Vandervort, Bloomington.
W. T. Williamson, Lexington.
M. P. Ward, Belleflower.
F. J. Welch, Bloomington.
H. A. Winter, Saybrook.
F. L. Wakefield, Heyworth.
E. G. Weiland, Bloomington.
R. G. Yolton, Bloomington.
J. L. Yolton, Bloomington.

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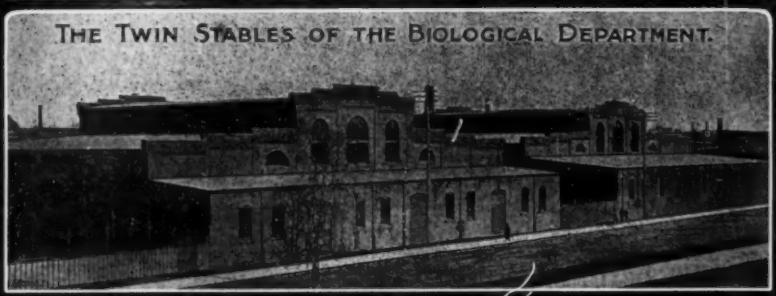

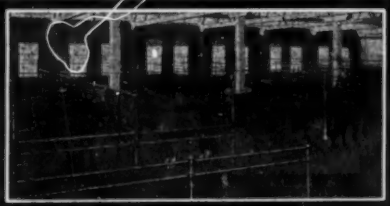

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